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OPTICAL EXTINCTION PREDICTIONS FROM MEASUREMENTS ABOARD A BRITI-ETC(U)  
AUG 81 G L TRUSTY, T H COSDEN  
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## Optical Extinction Predictions from Measurements Aboard a British Weather Ship

G. L. TRUSTY AND T. H. COSDEN

*Applied Optics Branch  
Optical Sciences Division*

August 27, 1981



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## OPTICAL EXTINCTION PREDICTIONS FROM MEASUREMENTS ABOARD A BRITISH WEATHER SHIP

### INTRODUCTION

The *Admiral Fitzroy* is one of two weather ships that tend station *Lima*, 57°N 20°W, for the British Ocean Weather Service. In late June 1978 we boarded the *Fitzroy* in Greenock, Scotland, to spend one 28-day station-keeping session with the Weather Service crew. We had with us equipment for measuring atmospheric aerosols.

As part of a joint project which included personnel from NRL and two laboratories from the United Kingdom, two of us from the former Optical Radiation Branch were to measure the marine aerosol in an open-ocean environment. While we were at sea the British were to measure aerosols on the seaward shore of South Uist, one of the Hebrides, off the northwest coast of Scotland.

Prior to the departure of the *Fitzroy*, R. Allan and S. Craig of the Royal Aircraft Establishment (RAE) and W. Shand, N. Tolliday, and A. Harland of the Royal Signal and Radar Establishment (RSRE) joined us at the dock with particle-counting equipment similar to ours. The purpose of the meeting was to make side-by-side comparison measurements of the two sets of aerosol spectrometers prior to the measurement period. We repeated the comparison at the end of the cruise.

The underlying reason for the program is an interest in the marine aerosol in the North Atlantic and that aerosol's effect on the propagation of electromagnetic waves of visible and infrared wavelengths. The immediate interest for the joint project was to determine the suitability of the weather ship as a platform for making the desired measurements and to compare aerosol measurements made in an open-sea environment with those made at a land-based seaside site. This report will only discuss the first of these two issues. The comparison of the land and sea measurements will be the subject of a later UK/US report.

### EQUIPMENT AND PROCEDURES

The most obvious piece of equipment was, of course, the ship. The *Admiral Fitzroy* is a 70-m (228-ft) British corvette built in 1943 for North Atlantic duty during World War II. Of the several corvettes once in the British Ocean Weather Service, only two remain. The craft are totally seaworthy, as their record shows, but because of their short length and narrow beam they roll a great deal, making them uncomfortable platforms. Also, in moderate to heavy seas they take a lot of water across the decks, making open-air experimental work treacherous or impossible.

One appealing feature of the ships is that they steam to their station and then drift without power in a fixed attitude to the wind, thus assuring the experimenter access to a clean air sample for an extended period of time. Also, with equipment of the type we used several mounting locations are available, which allows measurements to be made at three or four heights. However, both of these features have limitations, associated with bad weather, which essentially make the ship acceptable only as a fair-weather platform for our type of measurement. A further discussion of this will occur in a later section.

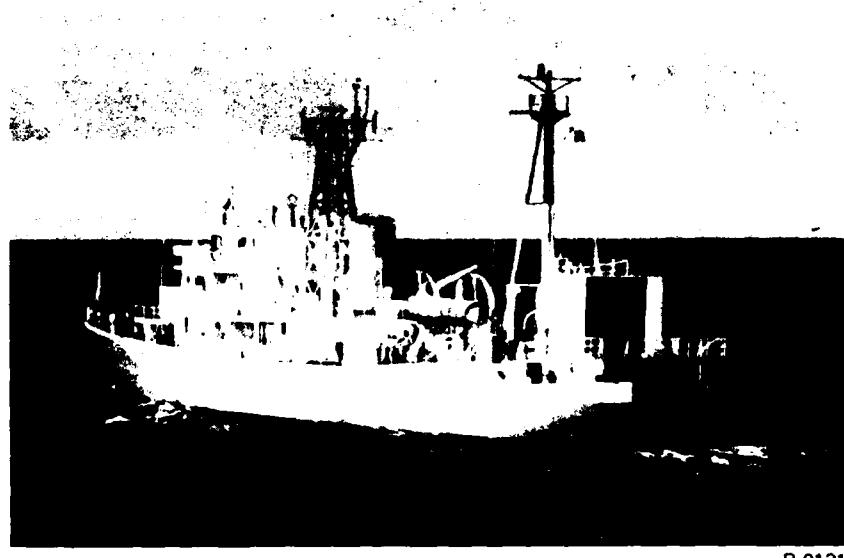
Manuscript submitted May 14, 1981.

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Two Particle Measuring Systems, Inc. (PMS) particle spectrometer probes measured the aerosol aboard the *Fitzroy*. One, the Active Scattering Aerosol Spectrometer Probe (ASASP), measures particles with radii in the 0.1- to 2.0- $\mu\text{m}$  range. The second is a high-volume version of the classical scattering probe (CSASP), which covers a range of 1.0 to 15  $\mu\text{m}$ . A third probe, another CSASP which we had intended to use at various locations on the ship, malfunctioned early on the trip and provided no data.

We placed these two instruments windward while the ship drifted on station. Since the drifting attitude has the wind coming from roughly 110° off the port bow, we needed to be as far aft as possible to avoid any contamination emanating from the ship. To avoid interfering with required weather-ship operations, the only available mounting for the instruments was 3 m from the ocean surface.

Figure 1 shows the *Admiral Fitzroy* at sea. The large superstructure at the stern is a balloon shed. The probe location was just below the shed. Later we found that another location at 6 m would have been acceptable to the Weather Service personnel at their balloon-shed level. Access to the probes would have been restricted, however, during balloon launchings.



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Fig. 1 — *Admiral Fitzroy* at sea

The PMS probes normally function on land as part of the mobile laboratory shown schematically in Fig. 2, which indicates two primary sets of sensors. The meteorological set on the upper left includes devices for monitoring air temperature, dew point, wind speed, and wind direction. On the upper right are the two particle spectrometers. The electronics that handle the data from the sensors are in the mobile laboratory and are illustrated in three columns in Fig. 2. The center column shows the PMS electronics, which include the data buffer and a digital magnetic tape where the information from all sensors is stored every second.

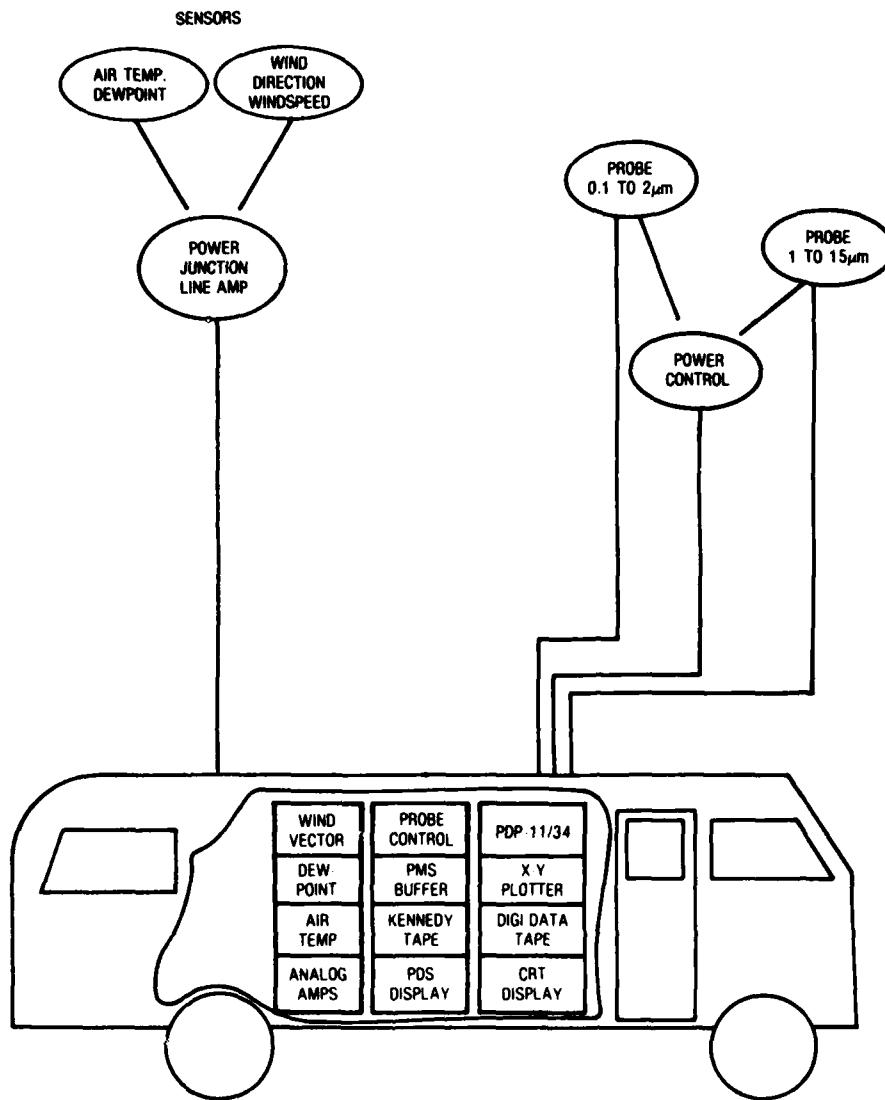


Fig. 2 — Aerosol mobile laboratory

Simultaneously, the system feeds the information into the PDP-11/34 data acquisition system for real-time processing. The user may specify averaging times. Data reduction includes the generation of aerosol size distributions from the probe data and the calculation, from these distributions, of extinction coefficients for ten arbitrary wavelengths by the Mie scattering theory. A disk stores resultant extinction coefficients, size distributions, and averaged meteorological parameters at the end of each averaging period. These data later produce time plots or cross-correlation plots.

Figure 3 gives an example of real-time output on the computer terminal from the computer program used on the *Fitzroy* cruise. The top line shows the year, day, time of day, and length of the averaging time. The next line of numbers gives the air temperature, dew point, wind speed, wind

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direction, laser reference level for the ASASP, wind wave-height, visibility, ship heading, partial pressure of water vapor (calculated from the dew point) and the relative humidity (from the dew point and air temperature). We obtained the wind wave-height, visibility, and ship heading from the hourly recordings of the Weather Service personnel and entered inputs using three potentiometers into the computer's analog interface. The other values came from our own instruments.

Fig. 3 — Sample output of real-time computer program

The next series of numbers gives the values of the points plotted on the particle size distribution below the numbers. The plot is  $dN/dR(\text{cm}^{-3} \mu\text{m}^{-1})$ , where  $N$  is the particle concentration and  $R$  is the particle radius, vs  $R$  ( $\mu\text{m}$ ) in a log-log form. The vertical scale ranges from  $10^{-4}$  to  $10^{+5}$  as shown, and the horizontal scale covers a range of 0.1 to 30. On the curve itself, the numbers 4, 3, and 2 indicate the three ranges of the active scattering probe and a 1 indicates results from the high-volume scattering probe.

The on-line program uses the distribution to calculate, in real time, the particle number density ( $\text{cm}^{-3}$ ), the cross-sectional area density ( $\mu\text{m}^2 \text{cm}^{-3}$ ) and the volume density ( $\mu\text{m}^3 \text{cm}^{-3}$ ). The results of those calculations appear directly beneath the plot. Finally, from the distribution, the extinction coefficients (per kilometer) at ten wavelengths ( $\mu\text{m}$  indicated as microns) are calculated in real time, as shown in the last line. These extinction coefficients, obtained from Mie theory, give only the extinction due to the aerosols; no molecular absorption or Rayleigh scattering is included.

Because the ship is small, we could not take the mobile laboratory on board. Thus, we removed the main electronic modules from the van and placed them in a compartment usually used as the radio and meteorological workshop. Cables ran about 10 m to the sensor location. Figure 4 shows the sensors mounted in their operating position. In this position they were exposed to the elements, as their measurement requirements necessitate. However, since the particle spectrometers are not rainproof, we took them inside during the off hours. Furthermore, in rough weather the waves actually broke over the mounting position, making it imperative that they not be left unattended for long periods. Thus, the data in this report are primarily for the daylight hours and relatively fair weather.

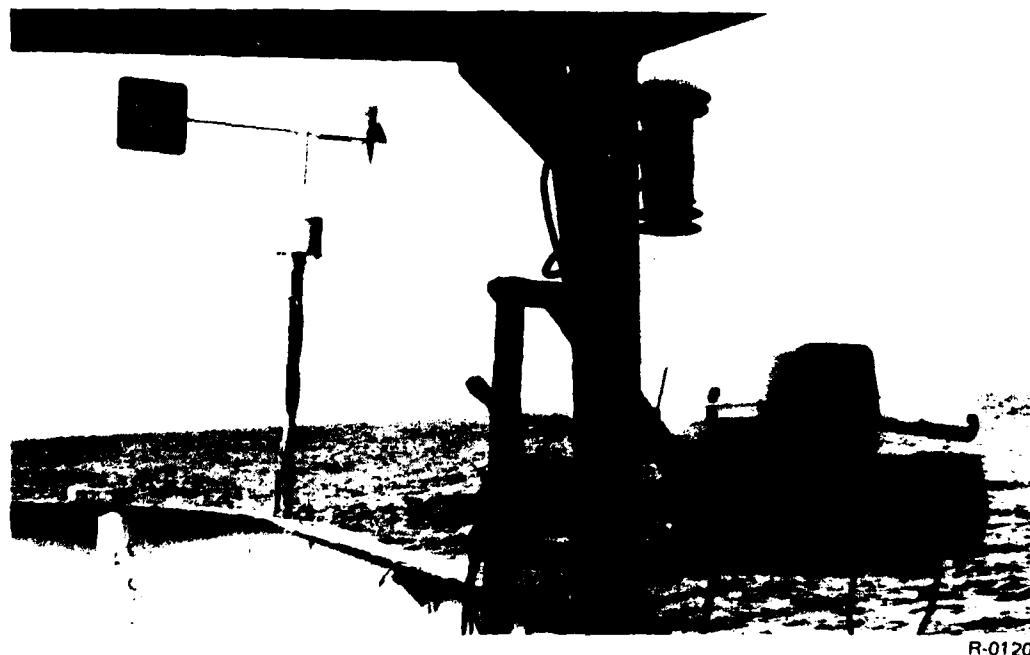


Fig. 4 — Aerosol spectrometers at mounting site

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Daily, weather permitting, we mounted the probes and did a bin-by-bin check on their operation. We then set the initial Weather Service readings on the potentiometers and did a sample real-time computer run to check operation. After mounting a data tape, we chose a total run time according to the weather conditions and instructed the computer program to produce an appropriate number of 20-min averages for disc storage. During the time on station we produced 101 of these 20-min averages. The reduction of the data tapes upon returning to NRL gave 254 of these averages.

### PARTICLE-COUNTER CALIBRATION

Although calibration equipment is taken into the field in case of emergency, we rely on the manufacturer's calibration of the aerosol probes. The instruments are calibrated before each major field trip. If it seems warranted, the calibration is repeated after the trip. Calibration is done using glass beads for the larger size ranges and polystyrene or latex spheres for the smaller sizes. Adjustment is seldom needed during calibrations.

The manufacturer gives an accuracy of 10% to the flow rates and plus or minus one sampling bin size for particle sizing. The error in the flow rate converts directly with respect to an extinction coefficient calculation. The bin-size error is more complex. Due to the steep slope on many of the size distributions, a one-bin displacement may not appear to change the curve much, but a calculation of extinction coefficients may reveal an order-of-magnitude effect.

Nevertheless, we have made several comparisons [1-3] with other instruments running concurrently and have found agreement generally better than the one-bin error would predict. Further, we have measured particles at sites in conjunction with optical transmission measurements. When wind direction and relative humidity were taken into account, predicted and measured transmissions compared favorably.

### MEASUREMENT RESULTS

Rather than showing all 254 particle size distributions and their associated meteorological parameters, we will look at the statistical nature of the measured variables. At station *Lima*, there is little land influence. The station is located 800 km (500 mi) west of Scotland, as marked in Fig. 5, and with a westerly air-mass movement, the air temperature is closely linked to the sea temperature. For July, a nearly perpetual cloud cover also contributes to the stability. Thus, temperature excursions are small. Figure 6 is a frequency-of-occurrence plot of the air temperature for the 254 twenty-minute averages. The figure shows very well the lack of variation of the temperature during daylight hours.

Although knowledge of the air temperature is important, the variables of interest for studying the marine aerosol are wind speed and relative humidity. Figure 7 is a statistical plot of the wind speed. It appears that the data give a normal distribution. However, the data are biased because we could not take data when high winds generated waves which threatened the instruments. This problem stopped us from taking data completely for 3 days on station.



Fig. 5 — Measurement location — Station *Lima*,  $57^{\circ}\text{N}$   $20^{\circ}\text{W}$

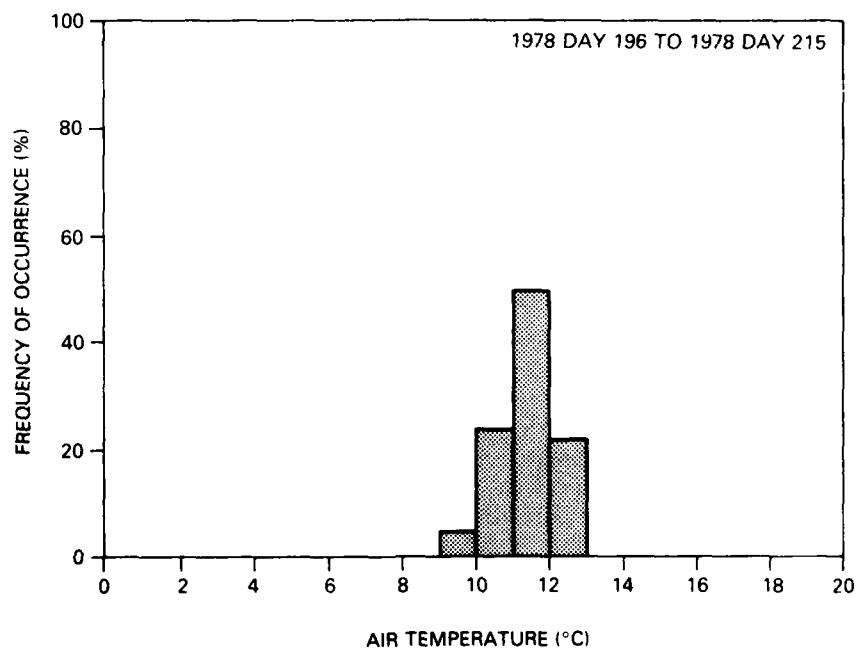


Fig. 6 — Frequency-of-occurrence plot of air temperature

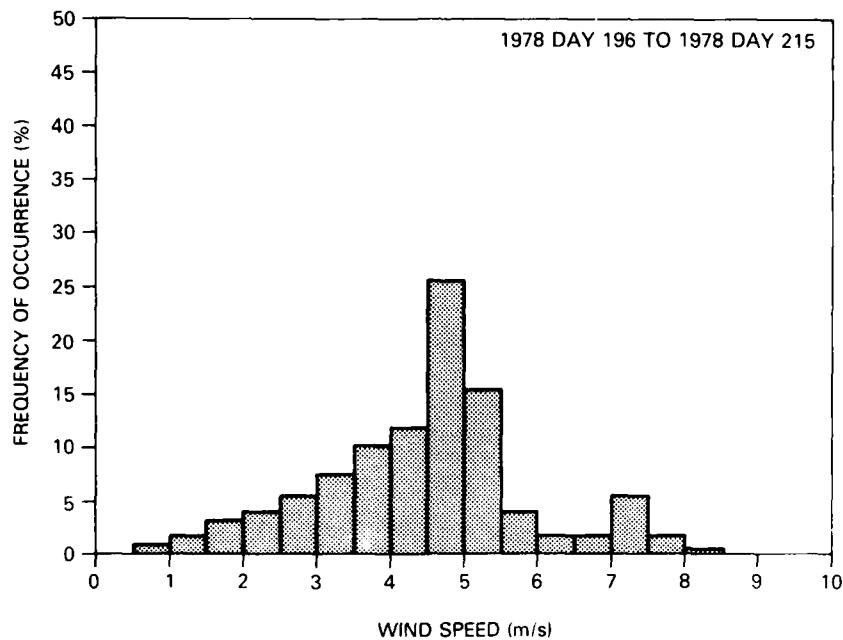


Fig. 7 — Frequency-of-occurrence plot of wind speed

A brief word here about the correlation of airborne particles with wind speed is appropriate. Cross-correlation calculations between wind speed and particle parameters such as total number, cross section, volume, and calculated extinction show that the correlation is quite low for our samples. Figure 8, for example, shows a plot of the parameter which gave the best correlation, viz, total particle volume. Obviously the correlation is not good; the others were worse. In observing the conditions at sea directly, we saw that for a rising wind the decrease in visibility did not seem to occur until after the higher wind had existed for a prolonged time. Therefore, if wind speed is to be an input parameter for marine aerosol models, it might be necessary to include a time history for meaningful results.

The second input parameter to many aerosol models is the relative humidity. Figure 9 is a frequency-of-occurrence plot of relative humidity for our measurement period. The relative humidity does not have a large range, since less than 12% of the samples have values less than 80%. Even so, the cross-correlation calculations show a higher correlation with the particle parameters than did the wind speed. Again, the best correlation was with total particle volume. That plot is shown in Fig. 10.

A separate issue concerning relative humidity should also be mentioned here. The fact that the relative humidity usually remained about 80% makes our calculated extinction coefficients more believable, because for relative humidities below 70% the particles may no longer be primarily water and may also not be spherical, both of which assumptions are used for the calculations.

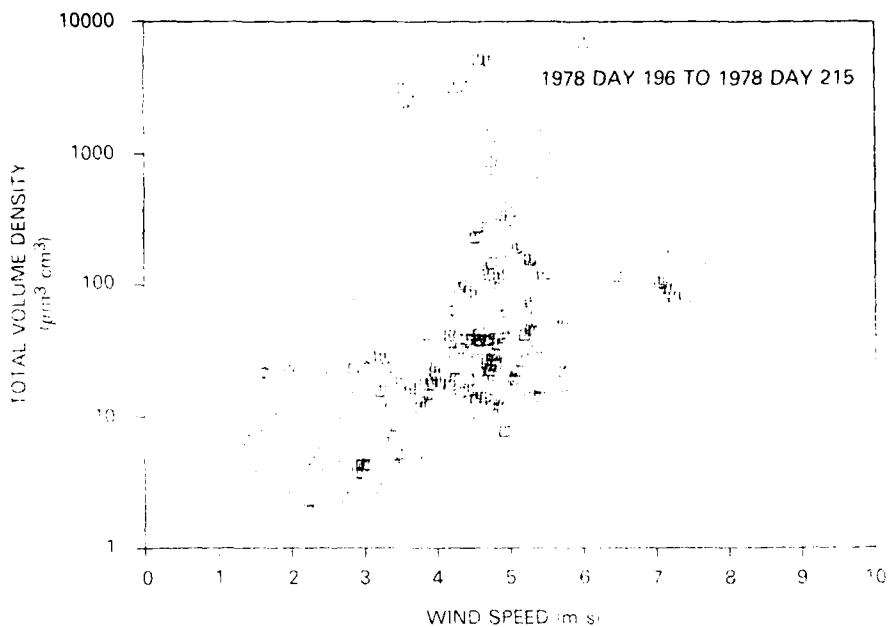


Fig. 8 — Total volume density of measured particles plotted vs wind speed

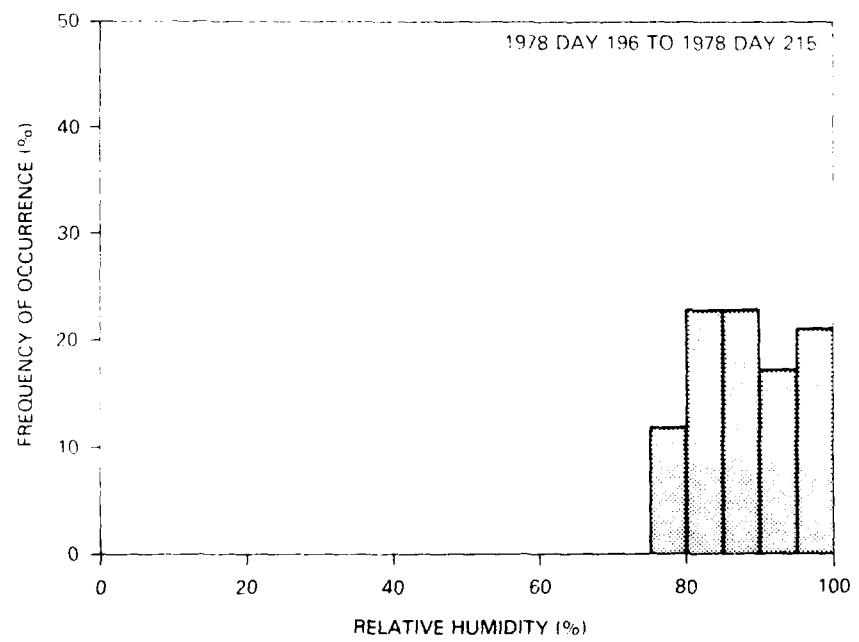


Fig. 9 — Frequency-of-occurrence plot of relative humidity

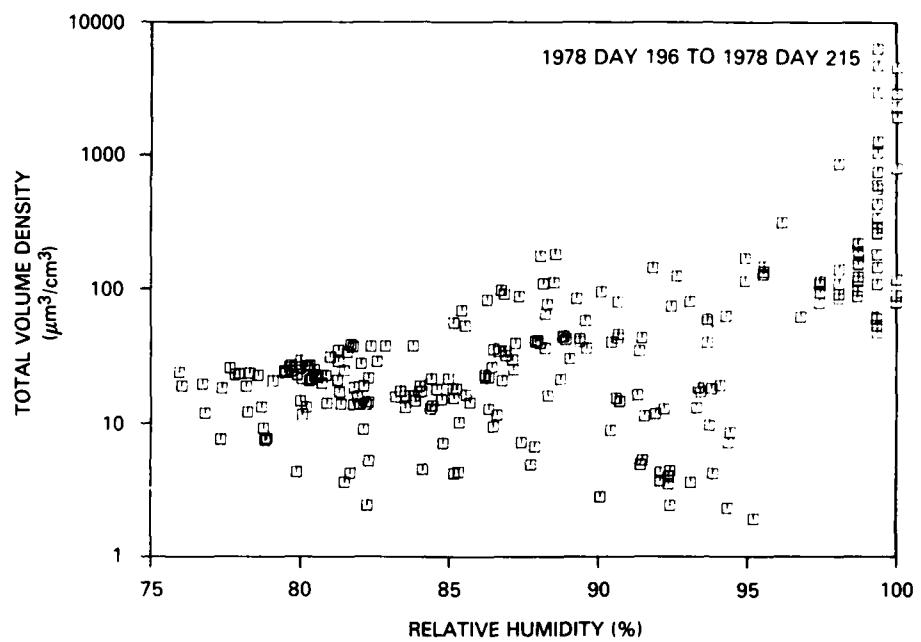


Fig. 10 — Total volume density of measured particles plotted vs relative humidity

Figure 11 shows that the variation in water vapor pressure during July was rather small, indicating that the extinction due to water vapor will be roughly that calculated for 1.2 kPa (9.0 torr)  $\pm$  20%. Calculated extinction due to aerosols, on the other hand, varies considerably. Figures 12, 13, and 14 show the frequency-of-occurrence plots for the calculated aerosol extinction at 0.55  $\mu\text{m}$ , 3.8  $\mu\text{m}$ , and 10.0  $\mu\text{m}$ , respectively. At all three wavelengths the variation is three orders of magnitude or more. Of course, when the molecular extinction is added for the infrared cases, the variation becomes much less. For example, for the 10- $\mu\text{m}$  case, since 1.2 kPa (9.0 torr) of water vapor gives approximately  $0.1 \text{ km}^{-1}$  for extinction due to molecular absorption alone, (using the P(20)  $\text{CO}_2$  laser line frequency), most of the values in Fig. 14 will be relatively insignificant. Thus, by calculating the appropriate 10.59- $\mu\text{m}$  absorption for each 20-min-average of water vapor and adding it to the corresponding aerosol extinction, we find that the frequency-of-occurrence plot for total extinction shows over 90% of the readings clustered near the  $0.1 \text{ km}^{-1}$  value, as seen in Fig. 15. Similarly, for the 3.8- $\mu\text{m}$  case the P<sub>2</sub>(8) DF laser frequency gives a molecular extinction coefficient near  $0.022 \text{ km}^{-1}$ . Here the distribution shifts to the right and loses part of the left side, as Figure 16 depicts. However, for 3.8  $\mu\text{m}$  the molecular extinction does not dominate as it does for 10.0  $\mu\text{m}$ .

The point here is that if one wanted to predict 3.8- $\mu\text{m}$  transmission it would be necessary to monitor both the water vapor and the particle size distribution, at least for a large portion of the 254 samples taken. For 10- $\mu\text{m}$  transmission prediction for these same conditions, however, for over 90% of the time the aerosol measurements are superfluous.

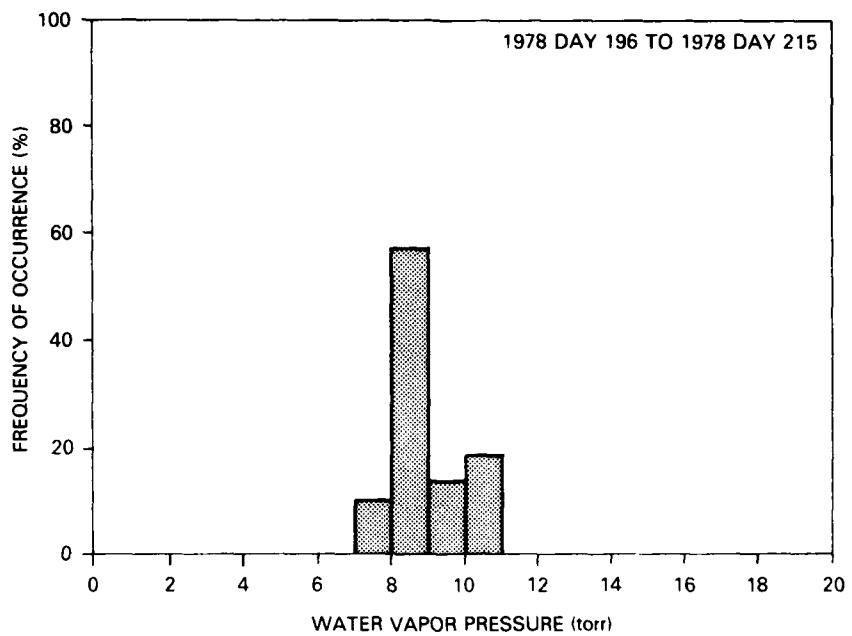


Fig. 11 — Frequency-of-occurrence plot of water vapor pressure (1 torr = 0.1333 kPa)

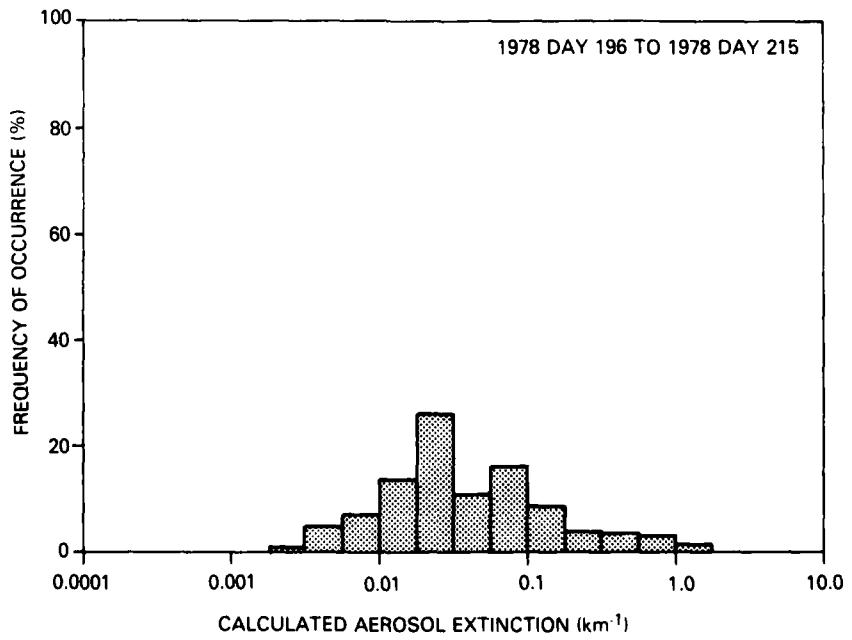


Fig. 12 — Frequency-of-occurrence plot of calculated aerosol extinction at 0.55 μm

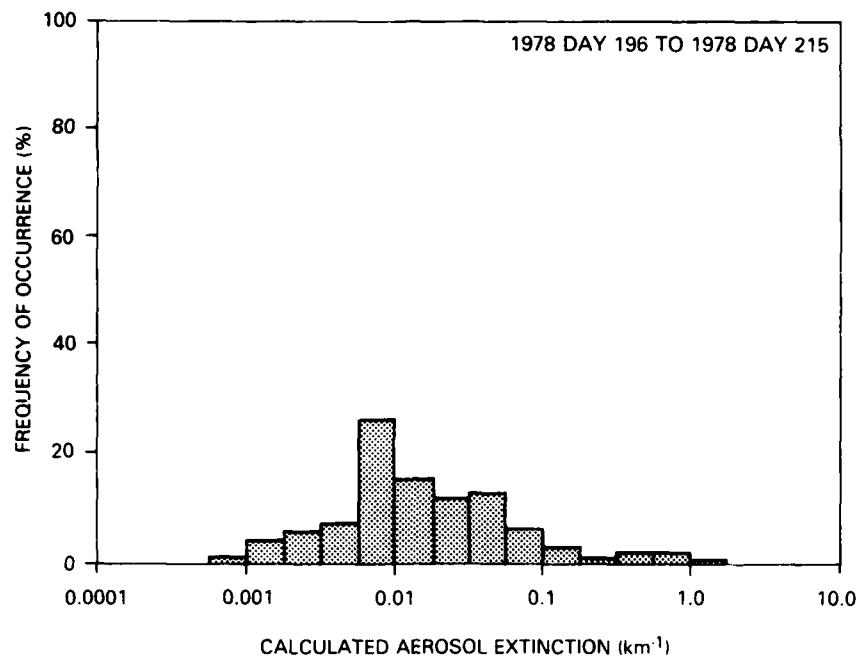


Fig. 13 — Frequency-of-occurrence plot of calculated aerosol extinction at 3.8  $\mu\text{m}$

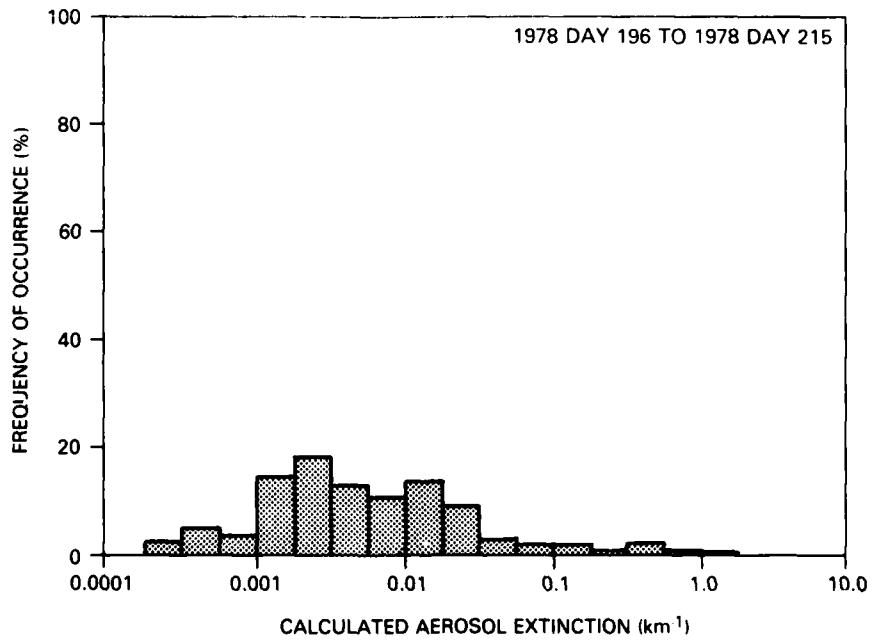


Fig. 14 — Frequency-of-occurrence plot of calculated aerosol extinction at 10.0  $\mu\text{m}$

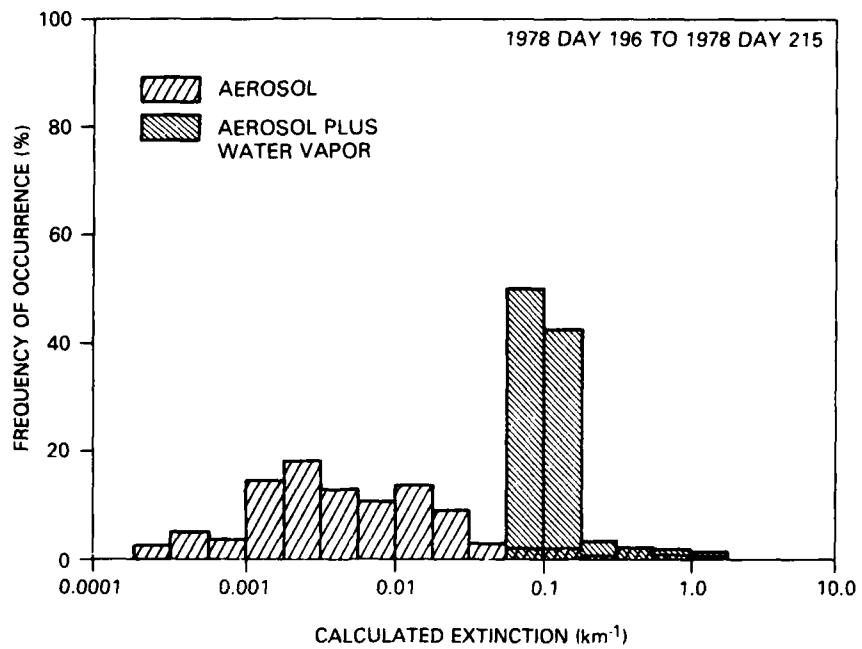


Fig. 15 — Frequency-of-occurrence plot of calculated extinction at  $10.0 \mu\text{m}$  with and without water-vapor contribution

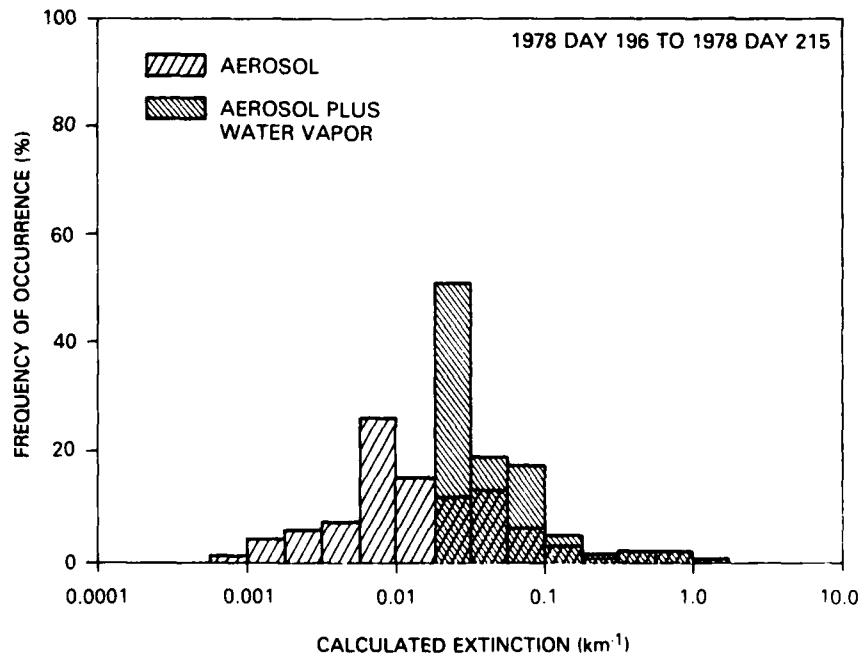


Fig. 16 — Frequency-of-occurrence plot of calculated extinction at  $3.8 \mu\text{m}$  with and without water-vapor contribution

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As a summary showing the wide variety of aerosol effects on extinction, Fig. 17 gives six calculated aerosol extinction vs wavelength plots. The criteria for selection of these examples were only that they cover a wide range and be spread evenly on the graph. There are several things to note in this figure. Most obvious is the range of values of extinction coefficient for any given wavelength, although the range is greatest for longer wavelengths. The latter fact is true because the largest extinction coefficient plot here is for a fog, where the particles are large, such that the scattering is nearly equally effective for all of the considered wavelengths. Note, also, the two samples where the curves actually cross. These two curves vividly point out the possible variation in slope of this function. The important point here is that the ratio of extinction coefficients at two wavelengths is not constant, as is assumed in marine aerosol models such as the one in LOWTRAN IIIB. Figure 18, which shows calculated 10- $\mu\text{m}$  extinction plotted vs calculated 0.55- $\mu\text{m}$  extinction, shows this as well. Although the correlation is fairly good, because of the log axis the scatter is well over an order of magnitude.

### VISIBILITY OBSERVATIONS

This section is concerned with the Weather Service's visibility measurements. Their procedure is as follows: they go on deck, scan the horizon, then report the lowest visibility they encounter in the scan. On this particular cruise it was the rule, rather than the exception, that at least one direction presented a lower visibility when compared with the rest. That is, there was usually a low cloud, a patch of fog, or a rain squall in sight: these determined the visibility reading.

Thus, when the log showed a visibility of 2 km, our calculated visibility from concurrent aerosol measurements may have estimated 20 km. In fact, 20 km may have been the visibility looking in the direction opposite that used for the visual reading. Figure 19 summarizes this by showing the frequency-of-occurrence plot of the calculated aerosol extinction together with the extinction obtained from the visibility observations (using the Koschmieder relation,  $\alpha = 3.91/V$ ) made by the Weather Service personnel.

The point is that some models for marine aerosols are derived from weather-ship data, and these models may attempt to predict the visibility from the wind speed and relative humidity. Obviously, something is amiss. Either the Weather Service will have to record more than just the lowest visibility or the modelers will have to look elsewhere for data.

### AEROSOL EXTINCTION PREDICTIONS

Chylek and others [4,5] have suggested that, for long wavelengths, the aerosol extinction is proportional to the total liquid-water content in the aerosol. A large collection of data such as that reported here lends itself to checking such a proposal. With the assumption that the aerosol particles are water and spheres, Fig. 20 indicates that the proportionality does indeed hold for 10  $\mu\text{m}$  for the data collected. In fact, it is quite remarkable considering the nearly four orders of magnitude of variation in the total volume. An attempt to extend this proportionality to visible wavelengths is not successful, however, as Fig. 21 clearly shows. On the other hand, the 0.55  $\mu\text{m}$  extinction does exhibit a strong proportionality to another simple function of the aerosol, namely, the total cross section. The correlation is, in fact, even better than that for 10  $\mu\text{m}$  with total volume. Figure 22 shows that correlation for our 254 twenty-minute samples.

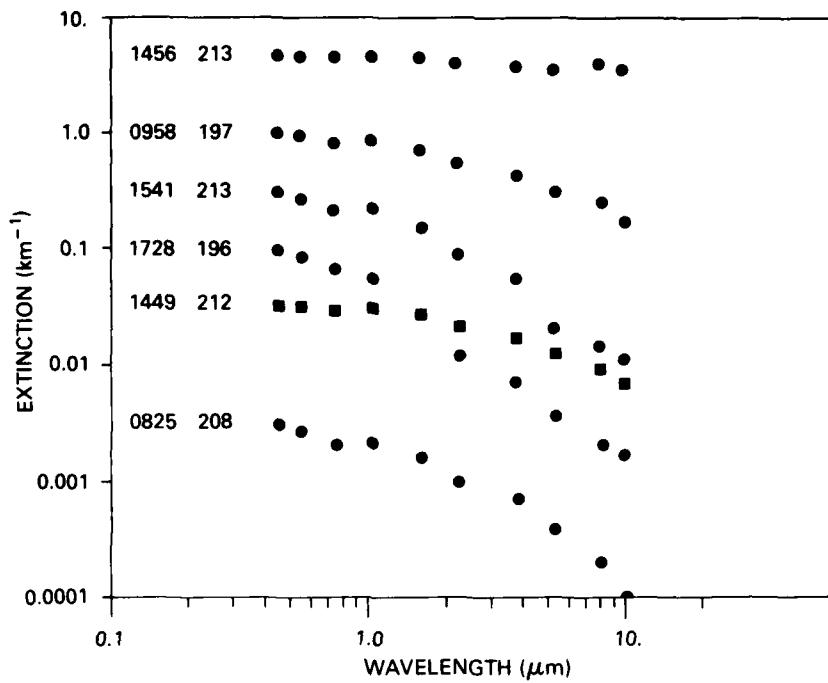


Fig. 17 — Aerosol extinctions plotted vs wavelength

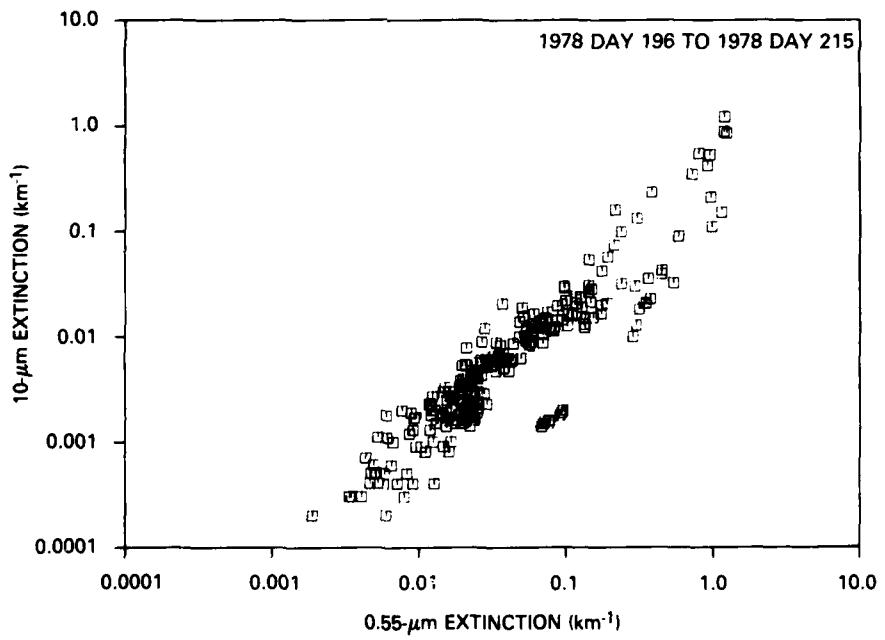


Fig. 18 — Calculated aerosol extinction at 10.0  $\mu\text{m}$  plotted vs calculated aerosol extinction at 0.55  $\mu\text{m}$

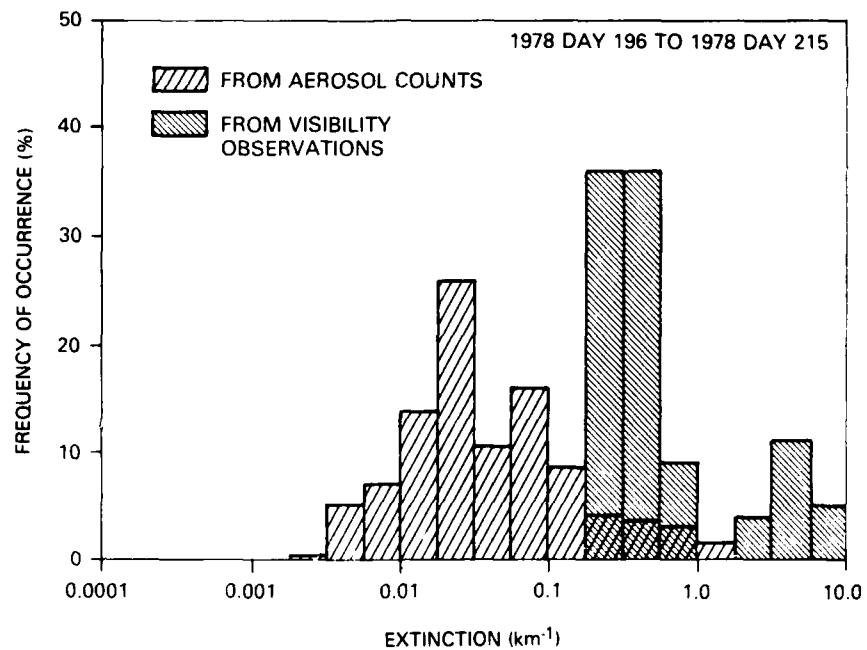


Fig. 19 — Calculated extinction at  $0.55 \mu\text{m}$  compared with extinction visibility observations

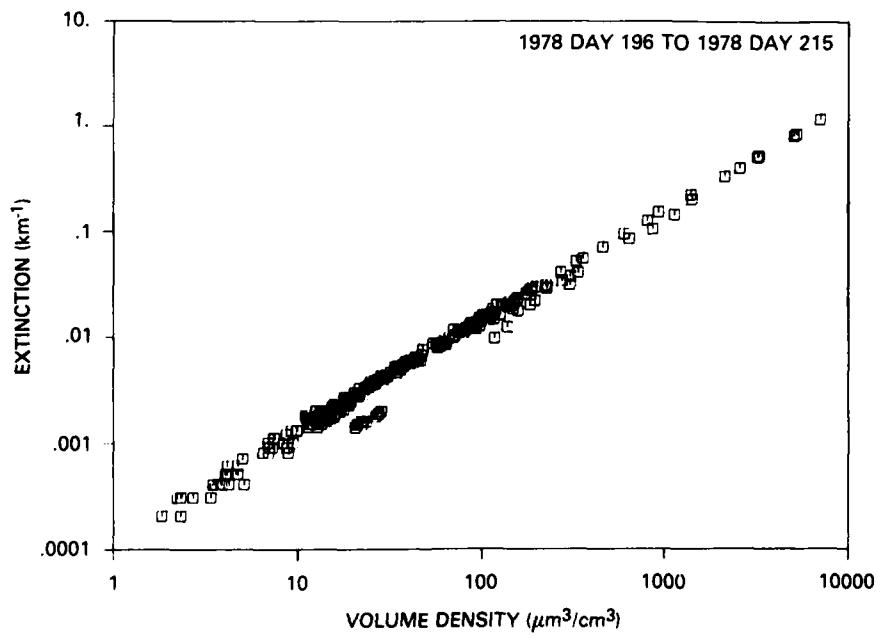


Fig. 20 — Calculated aerosol extinction at  $10.0 \mu\text{m}$  plotted vs total volume density of particles (total liquid water)

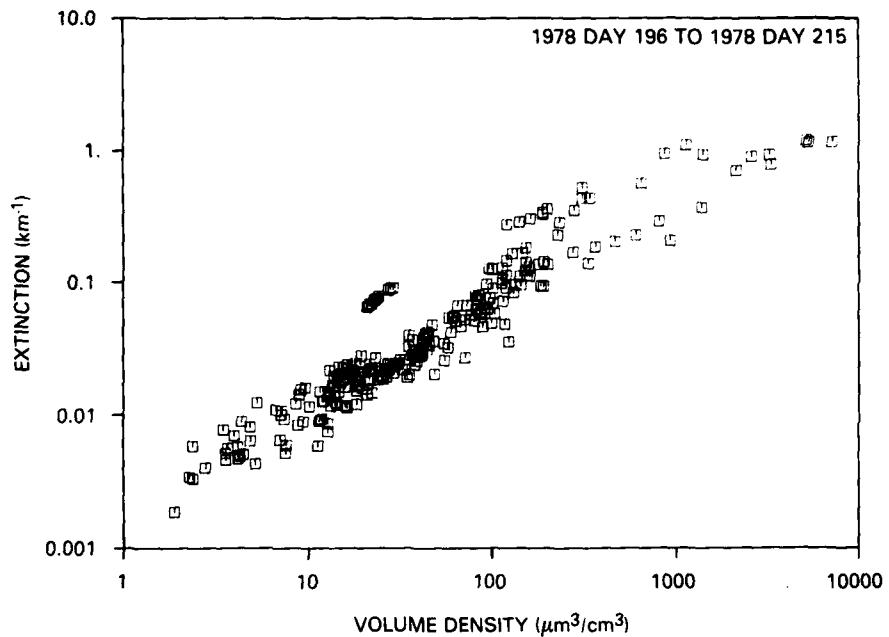


Fig. 21 — Calculated aerosol extinction at 0.55  $\mu\text{m}$  plotted vs total volume density of particles (total liquid water)

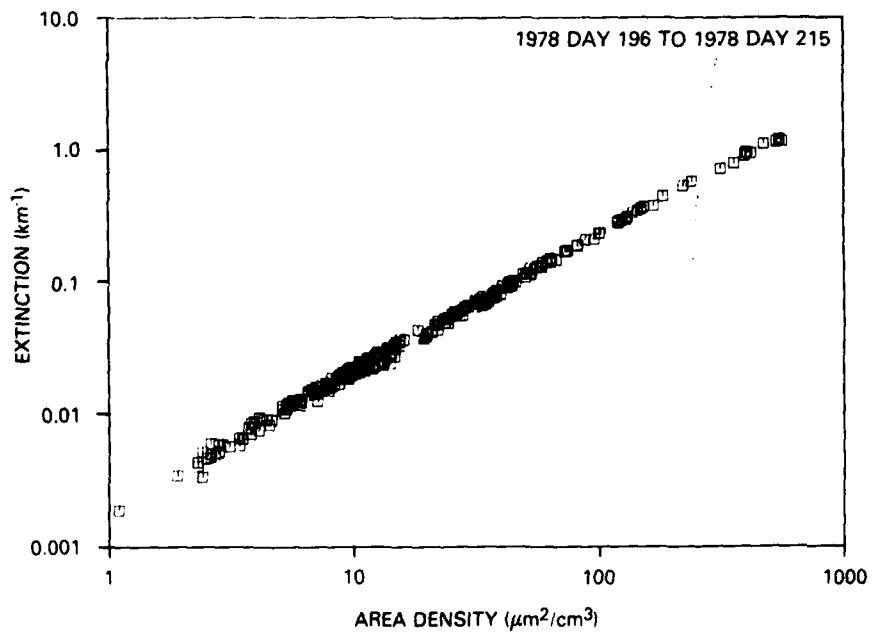


Fig. 22 — Calculated aerosol extinction at 0.55  $\mu\text{m}$  plotted vs total cross-sectional area density of particles

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Unfortunately, correlating other wavelengths with the simple functions number, area, and volume give less desirable results than do the two good ones shown here. Nevertheless, for predicting 10- $\mu\text{m}$  aerosol extinction, a mass monitor that does not modify the sample could possibly do a good job. And for visibility predictions a device that monitors cross-sectional area would work well. Currently, a nephelometer best fits the requirements of the latter.

## RECOMMENDATIONS

As noted earlier, one of the aims of the project was determining if the weather ship is suitable for making aerosol measurements that would satisfy the Navy's at-sea measurement requirements. Given that data are required for all types of weather and that this ship is not usable in bad weather, the conclusion is that it is not a suitable platform. High-wind data are needed for adequate testing of marine aerosol models.

When we have compared the shipboard results with land-based results, we may find the two sets of data much the same for similar wind speeds and relative humidities, or we may not. In either case, further measurements at sea and on land are recommended: at-sea measurements, because of the certainty of the lack of interference from surf and land-mass effects, and land-based measurements, because of needed comparisons with the more expensive and more difficult shipboard measurements.

For open-ocean studies, there are several recommendations. If a ship is used, it should be much larger than *Fitzroy*, so that easily accessible probe-mounting sites can assure damage-free operation of the probes during rough weather. Several choices for mounting heights would also be important for obtaining vertical profiles of the aerosol. Furthermore, if the ship is long enough a shipboard transmission measurement along the deck may be feasible along with the aerosol measurements.

For a ship that is not dedicated to the experiment, self-contamination is the worst problem; e.g., finding a place with clean air on a ship steaming with the wind may be impossible. Of course, prudent scheduling, with ship route and prevailing wind in mind, may alleviate the problem.

The alternative to a ship for open-ocean measurements is a sea platform such as used for drilling for oil. There, one could, for example, make high-resolution vertical aerosol profile measurements quite simply, compared with the problems associated with the same measurement aboard ship. Also, because the platforms would be usable in most weather as well, they would actually be preferable to a ship -- except for the obvious location limitation.

In conclusion, the reader should not infer that the measurements from the *Fitzroy* cruise are not useful. They are indeed useful, but unfortunately the data for high-wind conditions are conspicuously absent. Future measurements on a better platform would correct this. In the joint report with the U.K., we will discuss in detail the comparisons between the shipboard and land-based measurements. Therein may lie some indication as to how extensive future shipboard measurements should be.

## ACKNOWLEDGMENTS

We would like to thank N. Grimley for typing the several drafts of this report, Lt. Cmdr. M. Hughes of PMS-405 for her many comments on the first draft, and Dr. K. Haught for his programming efforts which have been invaluable in handling the data files.

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## Appendix

### AEROSOL DATA

As examples of marine atmosphere aerosol data, we have listed the 20-min averages of measurements that we made during the times the ship was stopped and turned into the wind. Tables A1a to A1e give the particle density distribution  $dN/dR$  ( $\text{cm}^{-3} \mu\text{m}^{-1}$ ) as a function of the radius of the probe bin centers. For Probe 1 we give results from only the first seven bins. Due to a double-valued sensitivity in the detection response, the data for the larger size ranges of that probe have proven to be inconsistent in many instances. For the purpose of calculating extinction coefficients, we fit a line between the value for the seventh bin of Probe 1 (ASASP) and the first bin of Probe 2 (CSASP). For convenience, the radii chosen for the fitted line are the same as the remaining eight bin centers of Probe 1.

Tables A2a to A2f give meteorological parameters and, for four wavelengths, calculated extinction coefficients. (The extinction calculations do not include molecular absorption.)

We have listed the particle probe bin edges in Table A3 to aid those who may wish to put the aerosol data into a form different from the one we have chosen.

Although all 254 size distributions are in Tables A1a to A1e, we want to show one sample plot for each day. For simplicity we chose to plot only those data that occurred at 1000, 1200, or 1400 hours, whichever came first on that day. Day 205 gave the only exception. Figures A1a to A1o show the resulting 15 plots.

Table A1a — Twenty-Minute Averages of  $dN/dR$  ( $\text{cm}^{-3} \mu\text{m}^{-1}$ ) vs Radius ( $\mu\text{m}$ )  
 (PROCESSED ON 27-APR-81)

PROGRAM A49GLT: AEROSOL DISTRIBUTION TURBULATION  
NRL 6532: ON F112POY 5.03 5.97 6.93 7.88 8.83 9.78 10.73 11.68 12.63 13.58 14.53  
RADIUS ---, 3.08E-05 6.16E-05 0.00E-01  
78 196 1320 3.08E-05 6.16E-05 0.00E-01  
1340 3.08E-05 6.16E-05 3.08E-05 6.16E-05 0.00E-01 0.00E-01 0.00E-01 0.00E-01 0.00E-01 0.00E-01 0.00E-01 0.00E-01 0.00E-01  
1400 6.16E-05 1.23E-04 3.08E-05 6.16E-05 0.00E-01 0.00E-01 0.00E-01 0.00E-01 0.00E-01 0.00E-01 0.00E-01 0.00E-01 0.00E-01  
1420 1.23E-04 6.16E-05 3.08E-05 6.16E-05 0.00E-01 0.00E-01 0.00E-01 0.00E-01 0.00E-01 0.00E-01 0.00E-01 0.00E-01 0.00E-01  
1440 1.23E-04 6.16E-05 9.24E-05 6.16E-05 0.00E-01 3.08E-05 3.08E-05 3.08E-05 3.08E-05 3.08E-05 3.08E-05 3.08E-05 3.08E-05 3.08E-05  
1500 9.24E-05 1.54E-04 9.24E-05 6.16E-05 0.00E-01  
1520 1.54E-04 9.24E-05 3.08E-05 6.16E-05 0.00E-01  
1540 9.24E-05 0.00E-01  
1600 0.00E-01 3.08E-05  
1620 6.16E-05 1.23E-04 6.16E-05 1.23E-04 3.08E-05  
1640 1.23E-04 6.16E-05 0.00E-01 0.00E-01 3.08E-05  
1700 6.16E-05 3.08E-05 3.08E-05 3.08E-05 0.00E-01  
1720 9.24E-05 0.00E-01  
1740 3.08E-05 0.00E-01  
1800 0.00E-01 9.24E-05 3.08E-05 3.08E-05 0.00E-01 0.00E-01 0.00E-01 0.00E-01 0.00E-01 0.00E-01 0.00E-01 0.00E-01 0.00E-01 0.00E-01

Table A1b – Twenty-Minute Averages of  $dN/dR$  ( $\text{cm}^{-3} \mu\text{m}^{-1}$ ) vs Radius ( $\mu\text{m}$ )  
 PRUARH1 A49GLT: AEROSOL DISTRIBUTION TABULATION  
 (PROCESSED ON 27-APR-81)

NP1E532: 011 FIT2P0; RADIUS ----;		0.12	0.15	0.18	0.22	0.26	0.29	0.33	1.23	2.18	3.12	4.03
78	201	920	0.00E+01	5.14E-02	1.71E-02	2.41E-01	2.32E+01	8.60E+00	7.53E+00	2.37E+01	1.55E+02	2.34E+03
78	201	940	0.00E+01	4.92E-02	1.33E-02	2.87E+01	2.24E+01	1.29E+01	1.66E+01	2.61E+01	1.65E+02	2.94E+03
78	201	960	0.00E+01	5.28E-01	1.44E-02	4.04E+01	2.15E+01	1.89E+01	1.13E+01	2.71E+01	1.61E+02	2.83E+03
78	201	980	0.00E+01	6.06E-02	1.69E-02	3.96E+01	2.41E+01	6.02E+00	1.05E+01	3.61E+01	1.96E+02	2.26E+03
78	201	1000	0.00E+01	6.95E-02	1.69E-02	4.65E+01	2.84E+01	1.03E+01	1.13E+01	5.42E+01	2.55E+02	2.86E+03
78	201	1020	0.00E+01	7.25E-01	4.13E-02	4.13E+01	2.41E+01	1.12E+01	6.05E+01	6.43E+01	3.67E+02	3.39E+03
78	201	1040	0.00E+01	7.30E-02	5.49E-02	1.87E+02	5.72E+01	6.28E+01	4.29E+01	4.29E+01	1.68E+02	1.68E+03
78	201	1060	0.00E+01	7.30E-02	5.76E-02	3.21E+02	2.04E+02	1.10E+02	9.49E+01	1.33E+00	1.14E+01	1.14E+02
78	201	1080	0.00E+01	7.30E-02	6.38E+02	3.61E+02	2.23E+02	1.49E+02	1.30E+02	1.45E+00	1.40E+01	3.81E+02
78	201	1100	0.00E+01	7.30E-02	6.73E+02	4.61E+02	3.32E+02	1.80E+02	1.80E+02	2.00E+00	1.35E+01	1.76E+02
78	201	1120	0.00E+01	7.30E-02	8.26E+02	4.34E+02	9.60E+02	1.49E+02	9.64E+01	1.54E+01	5.90E+01	5.90E+02
78	201	1140	0.00E+01	7.30E-02	9.35E+02	4.93E+02	2.91E+02	1.55E+02	1.20E+02	1.68E+00	2.69E+01	8.44E+02
78	202	1200	0.00E+01	1.55E+02	4.95E+01	3.44E+01	3.18E+01	7.74E+00	1.43E+01	3.23E+01	8.81E+02	4.39E+02
78	202	1240	0.00E+01	1.51E+02	6.56E+01	3.70E+01	4.47E+01	9.46E+00	1.73E+01	4.11E+01	9.44E+02	4.04E+02
78	202	1300	0.00E+01	1.38E+02	3.70E+02	5.57E+01	5.95E+01	1.29E+01	2.44E+01	2.71E+01	3.27E+02	1.13E+03
78	202	1320	0.00E+01	8.41E+02	2.78E+02	5.73E+01	5.27E+01	1.81E+01	1.81E+01	6.81E+01	5.27E+02	1.73E+03
78	202	1360	0.00E+01	2.34E+02	2.34E+02	8.10E+01	1.38E+01	1.55E+01	1.20E+01	1.28E+01	6.46E+01	1.30E+02
78	202	1400	0.00E+01	2.34E+02	2.34E+02	9.03E+01	9.30E+01	1.72E+01	1.80E+01	1.80E+01	6.46E+01	1.30E+02
78	202	1440	0.00E+01	2.34E+02	2.34E+02	9.03E+01	9.30E+01	1.72E+01	1.80E+01	1.80E+01	6.46E+01	1.30E+02
78	202	1480	0.00E+01	2.34E+02	2.34E+02	9.03E+01	9.30E+01	1.72E+01	1.80E+01	1.80E+01	6.46E+01	1.30E+02
78	202	1520	0.00E+01	2.34E+02	2.34E+02	9.03E+01	9.30E+01	1.72E+01	1.80E+01	1.80E+01	6.46E+01	1.30E+02
78	202	1560	0.00E+01	2.34E+02	2.34E+02	9.03E+01	9.30E+01	1.72E+01	1.80E+01	1.80E+01	6.46E+01	1.30E+02
78	202	1600	0.00E+01	2.34E+02	2.34E+02	9.03E+01	9.30E+01	1.72E+01	1.80E+01	1.80E+01	6.46E+01	1.30E+02
78	202	1640	0.00E+01	2.34E+02	2.34E+02	9.03E+01	9.30E+01	1.72E+01	1.80E+01	1.80E+01	6.46E+01	1.30E+02
78	202	1680	0.00E+01	2.34E+02	2.34E+02	9.03E+01	9.30E+01	1.72E+01	1.80E+01	1.80E+01	6.46E+01	1.30E+02
78	202	1720	0.00E+01	2.34E+02	2.34E+02	9.03E+01	9.30E+01	1.72E+01	1.80E+01	1.80E+01	6.46E+01	1.30E+02
78	202	1760	0.00E+01	2.34E+02	2.34E+02	9.03E+01	9.30E+01	1.72E+01	1.80E+01	1.80E+01	6.46E+01	1.30E+02
78	202	1800	0.00E+01	2.34E+02	2.34E+02	9.03E+01	9.30E+01	1.72E+01	1.80E+01	1.80E+01	6.46E+01	1.30E+02
78	202	1840	0.00E+01	4.19E+02	1.52E+02	3.79E+01	1.81E+01	1.81E+01	1.63E+01	1.74E+01	1.43E+01	1.23E+01
78	202	1880	0.00E+01	3.48E+02	1.24E+02	1.56E+01	1.56E+01	1.24E+01	9.45E+00	8.29E+00	1.09E+00	1.09E+00
78	202	1920	0.00E+01	3.20E+02	9.45E+02	2.90E+01	2.90E+01	2.00E+01	2.44E+01	1.88E+01	1.93E+01	1.25E+01
78	202	1960	0.00E+01	2.34E+02	8.10E+02	1.38E+01	1.38E+01	1.20E+01	6.00E+00	6.02E+00	8.93E+01	1.77E+01
78	202	2000	0.00E+01	2.13E+02	9.03E+02	1.72E+01	1.72E+01	1.81E+01	6.00E+00	1.40E+01	1.40E+01	1.67E+01
78	202	2040	0.00E+01	2.13E+02	8.57E+02	1.55E+01	1.55E+01	6.86E+00	6.86E+00	8.28E+00	5.45E+01	1.56E+01
78	202	2080	0.00E+01	2.37E+02	8.50E+02	1.74E+01	6.02E+00	4.30E+00	6.02E+00	5.45E+01	6.12E+02	1.28E+02
78	202	2120	0.00E+01	2.53E+02	8.50E+02	1.63E+01	6.30E+00	6.30E+00	6.78E+00	5.47E+01	6.37E+02	1.43E+02
78	202	2160	0.00E+01	2.17E+02	8.50E+02	1.26E+01	1.38E+01	6.30E+00	6.30E+00	6.78E+00	6.78E+02	1.89E+02
78	202	2200	0.00E+01	2.53E+02	8.50E+02	1.18E+01	1.18E+01	6.30E+00	6.30E+00	6.78E+00	6.78E+02	1.89E+02
78	202	2240	0.00E+01	2.53E+02	8.50E+02	1.18E+01	1.18E+01	6.30E+00	6.30E+00	6.78E+00	6.78E+02	1.89E+02
78	202	2280	0.00E+01	2.53E+02	8.50E+02	1.18E+01	1.18E+01	6.30E+00	6.30E+00	6.78E+00	6.78E+02	1.89E+02
78	202	2320	0.00E+01	2.53E+02	8.50E+02	1.18E+01	1.18E+01	6.30E+00	6.30E+00	6.78E+00	6.78E+02	1.89E+02
78	202	2360	0.00E+01	2.53E+02	8.50E+02	1.18E+01	1.18E+01	6.30E+00	6.30E+00	6.78E+00	6.78E+02	1.89E+02
78	202	2400	0.00E+01	2.53E+02	8.50E+02	1.18E+01	1.18E+01	6.30E+00	6.30E+00	6.78E+00	6.78E+02	1.89E+02
78	202	2440	0.00E+01	2.53E+02	8.50E+02	1.18E+01	1.18E+01	6.30E+00	6.30E+00	6.78E+00	6.78E+02	1.89E+02
78	202	2480	0.00E+01	2.53E+02	8.50E+02	1.18E+01	1.18E+01	6.30E+00	6.30E+00	6.78E+00	6.78E+02	1.89E+02
78	202	2520	0.00E+01	2.53E+02	8.50E+02	1.18E+01	1.18E+01	6.30E+00	6.30E+00	6.78E+00	6.78E+02	1.89E+02
78	202	2560	0.00E+01	2.53E+02	8.50E+02	1.18E+01	1.18E+01	6.30E+00	6.30E+00	6.78E+00	6.78E+02	1.89E+02
78	202	2600	0.00E+01	2.53E+02	8.50E+02	1.18E+01	1.18E+01	6.30E+00	6.30E+00	6.78E+00	6.78E+02	1.89E+02
78	202	2640	0.00E+01	2.53E+02	8.50E+02	1.18E+01	1.18E+01	6.30E+00	6.30E+00	6.78E+00	6.78E+02	1.89E+02
78	202	2680	0.00E+01	2.53E+02	8.50E+02	1.18E+01	1.18E+01	6.30E+00	6.30E+00	6.78E+00	6.78E+02	1.89E+02
78	202	2720	0.00E+01	2.53E+02	8.50E+02	1.18E+01	1.18E+01	6.30E+00	6.30E+00	6.78E+00	6.78E+02	1.89E+02
78	202	2760	0.00E+01	2.53E+02	8.50E+02	1.18E+01	1.18E+01	6.30E+00	6.30E+00	6.78E+00	6.78E+02	1.89E+02
78	202	2800	0.00E+01	2.53E+02	8.50E+02	1.18E+01	1.18E+01	6.30E+00	6.30E+00	6.78E+00	6.78E+02	1.89E+02
78	202	2840	0.00E+01	2.53E+02	8.50E+02	1.18E+01	1.18E+01	6.30E+00	6.30E+00	6.78E+00	6.78E+02	1.89E+02
78	202	2880	0.00E+01	2.53E+02	8.50E+02	1.18E+01	1.18E+01	6.30E+00	6.30E+00	6.78E+00	6.78E+02	1.89E+02
78	202	2920	0.00E+01	2.53E+02	8.50E+02	1.18E+01	1.18E+01	6.30E+00	6.30E+00	6.78E+00	6.78E+02	1.89E+02
78	202	2960	0.00E+01	2.53E+02	8.50E+02	1.18E+01	1.18E+01	6.30E+00	6.30E+00	6.78E+00	6.78E+02	1.89E+02
78	202	3000	0.00E+01	2.53E+02	8.50E+02	1.18E+01	1.18E+01	6.30E+00	6.30E+00	6.78E+00	6.78E+02	1.89E+02
78	202	3040	0.00E+01	2.53E+02	8.50E+02	1.18E+01	1.18E+01	6.30E+00	6.30E+00	6.78E+00	6.78E+02	1.89E+02
78	202	3080	0.00E+01	2.53E+02	8.50E+02	1.18E+01	1.18E+01	6.30E+00	6.30E+00	6.78E+00	6.78E+02	1.89E+02
78	202	3120	0.00E+01	2.53E+02	8.50E+02	1.18E+01	1.18E+01	6.30E+00	6.30E+00	6.78E+00	6.78E+02	1.89E+02
78	202	3160	0.00E+01	2.53E+02	8.50E+02	1.18E+01	1.18E+01	6.30E+00	6.30E+00	6.78E+00	6.78E+02	1.89E+02
78	202	3200	0.00E+01	2.53E+02	8.50E+02	1.18E+01	1.18E+01	6.30E+00	6.30E+00	6.78E+00	6.78E+02	1.89E+02
78	202	3240	0.00E+01	2.53E+02	8.50E+02	1.18E+01	1.18E+01	6.30E+00	6.30E+00	6.78E+00	6.78E+02	1.89E+02
78	202	3280	0.00E+01	2.53E+02	8.50E+02	1.18E+01	1.18E+01	6.30E+00	6.30E+00	6.78E+00	6.78E+02	1.89E+02
78	202	3320	0.00E+01	2.53E+02	8.50E+02	1.18E+01	1.18E+01	6.30E+00	6.30E+00	6.78E+00	6.78E+02	1.89E+02
78	202	3360	0.00E+01	2.53E+02	8.50E+02	1.18E+01	1.18E+01	6.30E+00	6.30E+00	6.78E+00	6.78E+02	1.89E+02
78	202	3400	0.00E+01	2.53E+02	8.50							

Table A1b (Continued)  
(PROCESSED ON 27-APR-81)

PROGRAM A49GLT: AEROSOL DISTRIBUTION TABULATION										
NPL6532: OH FITZPOI'		RADIUS -->		5.63		5.97		6.93		
78	201	920	4.62E-04	2.16E-04	1.54E-04	6.16E-05	3.08E-05	0.00E-01	3.08E-05	
		940	7.03E-04	1.23E-04	1.85E-04	1.23E-04	2.16E-04	3.08E-05	3.08E-05	
1000	6.47E-04	2.08E-04	2.46E-04	2.46E-04	2.16E-04	6.16E-05	3.08E-05	0.00E-01	0.00E-01	
1020	5.23E-04	4.62E-04	1.62E-04	2.46E-04	2.16E-04	6.16E-05	3.08E-05	0.00E-01	0.00E-01	
1040	3.08E-04	3.39E-04	2.16E-04	2.46E-04	1.85E-04	2.16E-04	3.08E-05	0.00E-01	6.16E-05	
1100	2.16E-04	2.77E-04	3.08E-05	9.24E-05	2.46E-05	3.08E-05	0.00E-01	0.00E-01	0.00E-01	
1300	3.51E-03	1.48E-03	1.57E-03	1.57E-03	7.70E-04	6.62E-04	5.23E-04	1.23E-04	1.23E-04	
1320	6.13E-03	2.33E-03	2.86E-03	2.86E-03	2.12E-03	1.32E-03	1.39E-03	6.16E-04	1.02E-03	
1340	6.03E-03	3.63E-03	2.96E-03	2.96E-03	2.80E-03	1.35E-03	1.45E-03	1.08E-03	4.93E-04	
1400	8.36E-03	4.56E-03	4.53E-03	4.53E-03	3.42E-03	1.62E-03	2.59E-03	1.29E-03	6.47E-04	
1420	8.25E-03	3.62E-03	4.16E-03	4.16E-03	1.43E-03	1.62E-03	1.05E-03	1.29E-03	4.29E-04	
1440	1.64E-02	5.85E-03	6.93E-03	6.93E-03	3.26E-03	3.05E-03	2.25E-03	1.26E-03	6.47E-04	
78	203	1200	8.68E-03	5.05E-03	3.97E-03	3.48E-03	1.66E-03	2.00E-03	1.20E-03	
		1220	6.87E-03	3.57E-03	2.68E-03	1.94E-03	8.01E-04	1.45E-03	8.31E-04	
1240	3.23E-03	3.65E-03	1.66E-03	1.66E-03	3.66E-03	2.12E-03	2.62E-03	1.23E-03	2.46E-03	
1300	1.26E-03	1.11E-03	8.01E-04	1.29E-03	8.01E-03	8.31E-04	1.02E-03	8.62E-04	6.16E-04	
1320	7.54E-03	5.76E-03	2.96E-03	4.53E-03	1.20E-03	1.57E-03	2.52E-03	2.00E-03	1.11E-03	
78	205	1840	6.87E-03	3.88E-03	2.56E-03	2.46E-03	1.26E-03	8.62E-04	3.39E-04	
		1900	7.24E-03	3.36E-03	2.89E-03	1.54E-03	1.60E-03	1.02E-03	8.62E-04	
1320	3.97E-03	2.23E-03	1.90E-03	1.90E-03	1.08E-03	8.03E-04	7.03E-04	4.00E-04	4.00E-04	
1940	4.68E-03	2.28E-03	1.69E-03	1.69E-03	1.08E-03	8.37E-04	5.54E-04	4.00E-04	1.23E-04	
2000	2.80E-03	1.76E-03	1.02E-03	6.77E-04	4.23E-04	4.93E-04	1.93E-04	1.86E-04	1.53E-04	
2020	1.72E-03	1.17E-03	7.05E-04	7.08E-04	3.03E-04	2.75E-04	1.70E-04	6.16E-05	3.08E-05	
2040	2.06E-03	1.54E-03	7.39E-04	7.70E-04	3.77E-04	1.95E-04	1.94E-04	3.08E-05	3.00E-05	
2100	2.95E-03	2.06E-03	7.29E-04	5.23E-04	1.65E-04	4.31E-04	3.68E-04	6.16E-05	6.00E-05	
2120	3.42E-03	1.79E-03	1.32E-03	1.32E-03	1.70E-04	5.54E-04	5.54E-04	2.46E-04	4.00E-04	
2140	3.82E-03	2.53E-03	1.45E-03	1.20E-03	9.24E-04	6.47E-04	6.47E-04	2.08E-04	1.54E-04	
78	206	1140	7.76E-03	4.06E-03	2.68E-03	2.12E-03	1.57E-03	1.26E-03	8.62E-04	
		1200	9.38E-03	5.67E-03	4.01E-03	2.99E-03	2.00E-03	1.23E-03	7.03E-04	
1220	9.85E-03	5.05E-03	4.37E-03	5.12E-03	1.85E-03	2.90E-03	3.51E-03	1.01E-03	1.01E-03	
1240	1.02E-02	5.16E-03	4.18E-03	3.20E-03	2.43E-03	2.72E-03	1.72E-03	1.06E-03	1.32E-04	
1500	1.08E-02	6.93E-03	5.06E-03	5.06E-03	2.76E-03	2.40E-03	1.65E-03	1.72E-03	5.93E-04	
1320	1.21E-02	6.19E-03	5.15E-03	5.15E-03	2.94E-03	2.11E-03	1.75E-03	2.75E-03	5.62E-04	
1340	1.35E-02	6.14E-03	6.46E-03	6.46E-03	4.65E-03	2.71E-03	1.91E-03	1.91E-03	1.13E-04	
1400	2.00E-02	1.13E-02	7.39E-03	7.71E-03	4.65E-03	3.93E-03	2.63E-03	2.15E-03	1.14E-03	
1420	1.81E-02	1.05E-02	7.16E-03	7.16E-03	4.65E-03	3.87E-03	4.40E-03	3.43E-04	1.14E-03	
1500	4.96E-03	3.81E-03	2.99E-03	1.96E-03	1.28E-03	1.15E-03	9.51E-04	7.18E-04	5.62E-04	
1520	6.74E-03	3.16E-03	2.87E-03	2.15E-03	1.90E-03	1.69E-03	1.69E-03	9.36E-04	6.97E-04	
1540	6.43E-03	4.7E-03	3.46E-03	2.90E-03	2.84E-03	2.15E-03	2.15E-03	1.15E-03	8.43E-04	
78	207	816	3.79E-01	3.65E-01	9.24E-01	1.65E-01	0.00E-01	3.00E-05	5.16E-05	0.00E-01
		916	2.17E-01	1.51E-01	6.11E-01	9.37E-01	5.03E-01	0.00E-01	6.11E-01	5.03E-01
911	1.81E-01	1.51E-01	6.11E-01	9.37E-01	5.03E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	
240	5.85E-04	1.55E-04	9.24E-05	6.11E-05	5.03E-05	6.11E-05	0.00E-01	0.00E-01	0.00E-01	
1000	1.02E-03	3.03E-03	4.33E-04	3.03E-04	3.03E-04	3.03E-04	5.03E-05	6.11E-05	6.11E-05	
1111	1.61E-03	5.93E-03	6.01E-04	3.46E-04	3.03E-04	3.03E-04	6.11E-04	6.11E-05	3.03E-05	
1149	7.70E-04	2.44E-04	1.35E-04	2.71E-04	2.44E-05	1.65E-05	6.11E-05	6.11E-05	5.03E-05	
1166	4.51E-04	1.51E-04	1.85E-04	1.23E-04	6.11E-05	3.03E-05	0.00E-01	0.00E-01	0.00E-01	
1170	1.00E-01	1.76E-01	1.85E-01	1.51E-01	6.11E-05	3.03E-05	0.00E-01	0.00E-01	0.00E-01	
1140	3.39E-04	3.08E-05	9.24E-05	6.11E-05	3.03E-05	3.03E-05	0.00E-01	0.00E-01	0.00E-01	

**Table A1c** – Twenty-Minute Averages of  $dN/dr$  ( $\text{cm}^{-3} \mu\text{m}^{-1}$ ) vs Radius ( $\mu\text{m}$ )  
 AEROSOL DISTRIBUTION THERMISTOR  
 (REFINED ON 27-SEP-2011)

Table A1c (Continued)  
 (PROCESSED ON 27-HPR-61)

NPL6532: ON FIT2POY									
Radius		REFUSOL DISTRIBUTION TREATMENT							
13	207	1200	4.62E-04	2.16E-04	9.24E-05	1.54E-04	6.16E-05	3.08E-05	9.24E-05
1.238	1.35E-03	5.23E-04	7.70E-04	3.88E-04	4.62E-04	3.69E-04	2.77E-04	1.23E-04	3.08E-05
1.410	9.85E-04	4.31E-04	4.62E-04	2.46E-04	6.16E-05	1.23E-04	1.54E-04	1.23E-04	2.03E-05
1.540	1.61E-03	5.23E-04	8.62E-04	1.23E-04	1.23E-04	3.08E-04	2.46E-04	1.23E-04	3.08E-05
1.400	1.23E-03	4.62E-04	8.31E-04	1.65E-04	1.65E-04	1.65E-04	1.23E-04	1.65E-04	3.08E-05
1.420	2.34E-03	9.51E-04	4.62E-04	7.39E-04	3.99E-04	1.65E-04	1.65E-04	1.65E-04	3.08E-05
1.410	2.25E-03	4.62E-04	7.70E-04	6.16E-04	2.16E-04	1.85E-04	9.24E-04	1.85E-04	6.16E-05
1.400	1.63E-03	6.71E-04	8.31E-04	3.98E-04	2.46E-04	9.24E-04	1.23E-04	1.23E-04	3.08E-05
1.520	1.82E-03	7.70E-04	4.93E-04	3.99E-04	1.54E-04	1.85E-04	1.23E-04	1.23E-04	3.08E-05
1.540	7.03E-04	4.62E-04	2.16E-04	6.16E-04	6.16E-05	3.08E-05	1.54E-04	1.54E-04	3.08E-05
1.600	5.54E-04	1.23E-04	2.16E-04	6.16E-04	6.16E-05	3.08E-05	0.00E-01	0.00E-01	0.00E-01
1.620	6.47E-04	2.77E-04	2.46E-04	6.16E-04	6.16E-05	3.08E-05	0.00E-01	0.00E-01	0.00E-01
1.640	4.62E-04	4.33E-04	2.16E-04	6.16E-05	6.16E-05	0.00E-01	0.00E-01	0.00E-01	0.00E-01
73	208	820	9.24E-05	3.08E-05	3.08E-05	7.16E-05	7.16E-05	7.16E-05	7.16E-05
900	840	6.16E-05	3.08E-05	9.24E-05	7.03E-05	6.16E-05	3.08E-05	0.00E-01	7.16E-05
920	2.45E-04	9.24E-05	1.23E-04	9.24E-05	9.24E-05	0.00E-01	0.00E-01	0.00E-01	0.00E-01
940	3.39E-04	6.00E-01	1.23E-04	1.23E-04	9.24E-05	1.23E-04	6.16E-05	0.00E-01	0.00E-01
1000	1.85E-04	6.16E-05	9.24E-05	6.16E-05	5.08E-05	0.00E-01	2.03E-05	0.00E-01	0.00E-01
1020	9.24E-04	4.00E-04	5.23E-04	4.00E-04	3.08E-05	0.00E-01	0.00E-01	0.00E-01	0.00E-01
1040	3.08E-04	2.48E-04	1.85E-04	1.23E-04	9.24E-05	9.24E-05	3.08E-05	1.54E-04	3.24E-05
1100	1.85E-04	6.16E-05	3.08E-05	6.16E-05	1.23E-04	9.24E-05	6.16E-05	6.16E-05	0.00E-01
1120	6.00E-01	3.08E-05	1.23E-04	9.24E-05	1.23E-04	6.16E-05	0.00E-01	3.08E-05	0.00E-01
1120	1.02E-03	2.77E-04	5.08E-04	1.54E-04	1.54E-04	9.24E-05	0.00E-01	0.00E-01	0.00E-01
1240	8.31E-04	3.08E-04	4.00E-04	3.24E-05	2.77E-04	1.23E-04	5.08E-05	0.00E-01	3.16E-05
1300	1.35E-02	4.62E-04	4.93E-04	2.16E-04	2.16E-04	6.16E-05	1.23E-04	1.23E-04	0.00E-01
1320	1.29E-03	5.54E-04	3.68E-04	2.16E-04	2.16E-04	6.16E-05	6.16E-05	6.16E-05	0.00E-01
1340	9.85E-04	7.08E-04	2.46E-04	3.08E-04	1.54E-04	2.16E-04	9.24E-05	6.16E-05	6.16E-05
1400	8.62E-04	8.31E-04	1.23E-04	9.08E-05	3.08E-05	1.23E-04	9.24E-05	0.00E-01	3.08E-05
1420	8.31E-04	3.69E-04	5.08E-04	2.77E-04	1.85E-04	2.46E-04	5.08E-04	6.16E-05	0.00E-01
1440	1.05E-03	4.31E-04	5.85E-04	4.31E-04	3.38E-04	1.85E-04	1.85E-04	1.54E-04	3.08E-05
1500	8.93E-04	4.62E-04	4.62E-04	2.16E-04	2.16E-04	6.16E-05	6.16E-05	6.16E-05	0.00E-01
1520	1.39E-03	1.05E-03	6.16E-04	4.00E-04	2.16E-04	6.16E-04	9.24E-05	6.16E-05	0.00E-01
1540	1.42E-03	1.20E-03	6.16E-04	3.08E-04	1.54E-04	2.16E-04	9.24E-05	6.16E-05	0.00E-01
1600	1.29E-03	8.62E-04	3.08E-04	1.54E-04	1.54E-04	2.16E-04	1.54E-04	1.54E-04	3.08E-05
1620	2.16E-03	1.11E-03	8.78E-04	5.54E-04	3.08E-04	7.03E-04	1.23E-04	1.23E-04	3.08E-05
1640	1.45E-03	8.01E-04	7.08E-04	3.79E-04	2.77E-04	1.23E-04	2.46E-04	1.85E-04	3.08E-05
1700	2.22E-03	1.79E-03	1.17E-03	1.17E-03	7.08E-04	1.23E-04	7.08E-04	1.23E-04	3.08E-05
1720	1.57E-03	1.32E-03	4.93E-04	6.77E-04	3.08E-04	3.08E-04	3.08E-04	2.77E-04	6.16E-05
1740	1.39E-03	8.62E-04	3.68E-04	5.23E-04	2.46E-04	2.16E-04	3.08E-04	1.23E-04	3.08E-05
1800	1.05E-03	6.16E-04	3.88E-04	5.54E-04	3.08E-04	5.54E-04	9.24E-05	1.23E-04	3.08E-05
1820	2.16E-03	1.11E-03	6.47E-04	4.62E-04	2.77E-04	7.03E-04	1.23E-04	1.23E-04	3.08E-05
1840	1.05E-03	6.16E-04	3.08E-04	2.46E-04	1.54E-04	1.54E-04	1.85E-04	1.85E-04	3.08E-05
1900	1.47E-03	7.98E-04	8.78E-04	4.00E-04	4.00E-04	4.00E-04	1.23E-04	1.23E-04	3.08E-05
1920	1.20E-03	1.42E-03	7.98E-04	4.93E-04	4.93E-04	1.54E-04	1.54E-04	1.54E-04	3.08E-05
1940	1.20E-03	7.98E-04	4.62E-04						
1960	1.18E-03	9.35E-04	5.62E-04	3.43E-04	2.81E-04	2.81E-04	2.81E-04	1.54E-04	1.54E-04
1970	1.65E-03	6.55E-04	4.62E-04	1.25E-04	2.16E-04	2.16E-04	2.16E-04	1.23E-04	3.12E-05
1980	2.43E-03	1.18E-04	8.74E-04	3.74E-04	5.30E-04	5.30E-04	5.30E-04	5.30E-04	5.30E-04
1990	1.65E-03	1.31E-03	9.67E-04	5.30E-04	2.16E-04	2.16E-04	2.16E-04	1.54E-04	1.54E-04
2000	1.18E-03	2.16E-03	9.67E-04	5.30E-04	2.16E-04	2.16E-04	2.16E-04	1.54E-04	1.54E-04
2010	2.43E-03	1.18E-04	8.74E-04	3.74E-04	5.30E-04	5.30E-04	5.30E-04	5.30E-04	5.30E-04
2020	1.18E-03	2.16E-03	9.67E-04	5.30E-04	2.16E-04	2.16E-04	2.16E-04	1.54E-04	1.54E-04
2030	1.18E-03	4.71E-03	2.16E-03	1.31E-03	8.33E-04	8.33E-04	8.33E-04	2.16E-04	2.16E-04
2040	1.18E-03	4.31E-04	3.68E-04	1.25E-04	2.16E-04	2.16E-04	2.16E-04	1.54E-04	1.54E-04
2050	1.18E-03	2.16E-03	9.67E-04	5.30E-04	2.16E-04	2.16E-04	2.16E-04	1.54E-04	1.54E-04
2060	1.18E-03	2.56E-03	1.31E-03	9.67E-04	5.30E-04	2.16E-04	2.16E-04	1.54E-04	1.54E-04
2070	1.18E-03	1.18E-04	8.74E-04	3.74E-04	5.30E-04	5.30E-04	5.30E-04	5.30E-04	5.30E-04
2080	1.18E-03	2.16E-03	9.67E-04	5.30E-04	2.16E-04	2.16E-04	2.16E-04	1.54E-04	1.54E-04
2090	1.18E-03	4.71E-03	2.16E-03	1.31E-03	8.33E-04	8.33E-04	8.33E-04	2.16E-04	2.16E-04
2100	1.18E-03	4.31E-04	3.68E-04	1.25E-04	2.16E-04	2.16E-04	2.16E-04	1.54E-04	1.54E-04
2110	1.18E-03	2.16E-03	9.67E-04	5.30E-04	2.16E-04	2.16E-04	2.16E-04	1.54E-04	1.54E-04
2120	1.18E-03	2.56E-03	1.31E-03	9.67E-04	5.30E-04	2.16E-04	2.16E-04	1.54E-04	1.54E-04
2130	1.18E-03	1.18E-04	8.74E-04	3.74E-04	5.30E-04	5.30E-04	5.30E-04	5.30E-04	5.30E-04
2140	1.18E-03	2.16E-03	9.67E-04	5.30E-04	2.16E-04	2.16E-04	2.16E-04	1.54E-04	1.54E-04
2150	1.18E-03	4.71E-03	2.16E-03	1.31E-03	8.33E-04	8.33E-04	8.33E-04	2.16E-04	2.16E-04
2160	1.18E-03	4.31E-04	3.68E-04	1.25E-04	2.16E-04	2.16E-04	2.16E-04	1.54E-04	1.54E-04
2170	1.18E-03	2.16E-03	9.67E-04	5.30E-04	2.16E-04	2.16E-04	2.16E-04	1.54E-04	1.54E-04
2180	1.18E-03	2.56E-03	1.31E-03	9.67E-04	5.30E-04	2.16E-04	2.16E-04	1.54E-04	1.54E-04
2190	1.18E-03	1.18E-04	8.74E-04	3.74E-04	5.30E-04	5.30E-04	5.30E-04	5.30E-04	5.30E-04
2200	1.18E-03	2.16E-03	9.67E-04	5.30E-04	2.16E-04	2.16E-04	2.16E-04	1.54E-04	1.54E-04
2210	1.18E-03	4.71E-03	2.16E-03	1.31E-03	8.33E-04	8.33E-04	8.33E-04	2.16E-04	2.16E-04
2220	1.18E-03	4.31E-04	3.68E-04	1.25E-04	2.16E-04	2.16E-04	2.16E-04	1.54E-04	1.54E-04
2230	1.18E-03	2.16E-03	9.67E-04	5.30E-04	2.16E-04	2.16E-04	2.16E-04	1.54E-04	1.54E-04
2240	1.18E-03	2.56E-03	1.31E-03	9.67E-04	5.30E-04	2.16E-04	2.16E-04	1.54E-04	1.54E-04
2250	1.18E-03	1.18E-04	8.74E-04	3.74E-04	5.30E-04	5.30E-04	5.30E-04	5.30E-04	5.30E-04
2260	1.18E-03	2.16E-03	9.67E-04	5.30E-04	2.16E-04	2.16E-04	2.16E-04	1.54E-04	1.54E-04
2270	1.18E-03	4.71E-03	2.16E-03	1.31E-03	8.33E-04	8.33E-04	8.33E-04	2.16E-04	2.16E-04
2280	1.18E-03	4.31E-04	3.68E-04	1.25E-04	2.16E-04	2.16E-04	2.16E-04	1.54E-04	1.54E-04
2290	1.18E-03	2.16E-03	9.67E-04	5.30E-04	2.16E-04	2.16E-04	2.16E-04	1.54E-04	1.54E-04
2300	1.18E-03	2.56E-03	1.31E-03	9.67E-04	5.30E-04	2.16E-04	2.16E-04	1.54E-04	1.54E-04
2310	1.18E-03	1.18E-04	8.74E-04	3.74E-04	5.30E-04	5.30E-04	5.30E-04	5.30E-04	5.30E-04
2320	1.18E-03	2.16E-03							

Table A1d — Twenty-Minute Averages of  $dN/dR$  ( $\text{cm}^{-3} \mu\text{m}^{-1}$ ) vs Radius ( $\mu\text{m}$ )  
 (PROCESSED ON 27-NOV-81)  
 AEROSOL DISTRIBUTION TABULATION  
 PROGRAM A49GLT

Table A1d (Continued)  
(PROCESSED ON 27-APR-81)

PROJECT A495LT: AEROSOL DISTRIBUTION TABULATION									
NPL6532: OII FITZROY		RADIUS		5.97		6.93		7.88	
7.3	209	11.40	2.83E-03	1.82E-03	1.05E-03	5.85E-04	3.69E-04	3.69E-04	3.08E-04
1200	4.10E-03	2.06E-03	1.76E-03	1.14E-03	1.23E-03	1.71E-03	3.39E-04	2.16E-04	1.23E-05
1200	2.96E-03	2.09E-03	1.76E-03	1.39E-03	8.62E-04	6.77E-04	6.62E-04	6.16E-04	6.16E-05
1200	2.40E-03	1.39E-03	1.66E-03	6.41E-04	5.54E-04	4.00E-04	3.39E-04	2.17E-04	2.34E-05
1360	1.66E-03	1.66E-03	1.60E-03	8.08E-04	8.62E-04	7.08E-04	6.16E-04	1.23E-04	9.24E-05
1360	2.06E-03	2.00E-03	2.17E-03	5.85E-04	9.93E-04	4.93E-04	5.85E-04	1.23E-04	9.00E-01
1400	2.16E-03	1.82E-03	9.54E-04	7.70E-04	4.13E-04	4.00E-04	1.23E-04	1.54E-04	0.00E-01
1420	2.34E-03	1.94E-03	1.02E-03	8.62E-04	7.08E-04	3.62E-04	1.81E-04	1.23E-04	6.24E-05
1440	2.37E-03	1.82E-03	1.02E-03	7.70E-04	3.79E-04	3.62E-04	1.45E-04	1.23E-04	3.08E-05
1500	2.43E-03	1.66E-03	1.17E-03	8.62E-04	6.16E-04	4.31E-04	1.23E-04	1.23E-04	6.14E-05
1500	2.29E-03	1.66E-03	1.17E-03	6.16E-04	5.54E-04	5.54E-04	2.77E-04	1.23E-04	6.14E-05
1540	2.52E-03	1.45E-03	8.01E-04	6.93E-04	4.74E-04	3.69E-04	2.46E-05	1.85E-04	1.23E-04
1600	2.63E-03	1.97E-03	1.11E-03	8.62E-04	3.62E-04	2.77E-04	1.46E-04	1.23E-04	1.23E-04
1620	3.76E-03	2.59E-03	1.76E-03	8.01E-04	1.02E-03	5.23E-04	3.62E-04	1.23E-04	0.00E-01
7.8	213	820	1.75E-02	6.22E-03	2.93E-03	1.54E-03	4.31E-03	7.70E-04	5.54E-04
840	5.57E-03	2.37E-03	2.65E-03	1.08E-03	1.05E-03	4.00E-04	5.54E-04	3.08E-04	2.46E-04
900	5.93E-03	2.56E-03	2.28E-03	9.24E-04	9.32E-04	6.77E-04	5.54E-04	3.24E-05	6.16E-05
920	5.34E-03	3.63E-03	3.02E-03	1.26E-03	1.26E-03	1.11E-03	7.08E-04	6.41E-04	3.08E-04
940	1.26E-02	4.37E-03	6.40E-03	8.86E-03	3.42E-03	1.94E-03	1.20E-03	7.08E-04	2.46E-04
1000	5.82E-03	2.31E-03	1.85E-03	8.93E-04	1.70E-03	5.23E-04	2.46E-04	3.39E-04	5.03E-04
1020	4.12E-03	1.34E-03	1.34E-03	8.62E-04	1.05E-03	4.62E-04	4.31E-04	6.16E-05	1.16E-01
1040	5.13E-03	2.12E-03	2.28E-03	8.31E-04	8.93E-04	8.01E-04	4.31E-04	2.17E-04	1.23E-05
1150	5.11E-03	1.48E-03	2.93E-03	1.47E-03	9.38E-04	8.83E-04	2.46E-04	2.46E-04	1.23E-04
1240	5.24E-03	2.56E-03	1.57E-03	9.85E-04	8.73E-04	3.39E-04	4.14E-04	3.08E-04	2.46E-04
1260	5.39E-03	1.91E-03	3.19E-03	3.54E-04	1.14E-03	5.05E-04	5.12E-04	5.12E-04	1.23E-04
1280	4.06E-03	1.54E-03	2.19E-03	8.62E-04	8.01E-03	3.69E-04	3.39E-04	3.39E-04	1.23E-05
1240	4.68E-03	1.97E-03	2.16E-03	2.40E-03	1.60E-03	1.11E-03	2.77E-04	3.08E-04	6.16E-05
1390	4.90E-03	1.60E-03	7.73E-03	6.77E-04	6.77E-04	2.77E-04	3.62E-04	1.54E-04	6.16E-05
1370	4.71E-03	1.79E-03	1.79E-03	1.79E-03	1.79E-03	1.79E-03	1.81E-04	1.81E-04	1.23E-04
1340	3.35E-03	1.48E-03	1.66E-03	8.01E-04	7.08E-04	5.69E-04	3.62E-04	3.16E-05	3.03E-05
1400	3.05E-03	1.29E-03	1.66E-03	7.08E-04	6.77E-04	4.62E-04	2.77E-04	2.16E-04	6.16E-05
1440	2.62E-03	1.08E-03	1.48E-03	4.00E-04	3.54E-04	3.54E-04	1.54E-04	1.54E-04	0.00E-01
1440	3.61E-03	1.57E-03	1.42E-03	7.08E-04	7.08E-04	4.31E-04	4.00E-04	2.16E-04	3.08E-05
1510	3.85E-03	1.91E-03	1.79E-03	7.08E-04	9.24E-04	4.00E-04	4.00E-04	1.85E-04	6.16E-05
7.8	211	840	1.97E-02	3.17E-03	4.80E-03	1.91E-03	2.03E-03	9.54E-04	8.0E-04
900	5.91E-03	2.52E-03	2.59E-03	1.02E-03	1.45E-03	5.05E-03	5.66E-04	4.31E-04	2.46E-04
1010	8.71E-03	2.59E-03	3.79E-03	2.28E-03	7.70E-04	1.05E-03	5.08E-04	4.31E-04	1.54E-04
1020	5.19E-03	2.43E-03	2.25E-03	2.31E-03	6.62E-04	1.05E-03	4.62E-04	3.73E-04	2.46E-05
1090	5.73E-03	2.19E-03	2.19E-03	2.52E-03	6.72E-04	1.17E-03	5.23E-04	2.16E-04	1.23E-05
1020	6.07E-03	2.22E-03	2.23E-03	2.89E-03	2.09E-03	7.39E-04	1.14E-03	1.14E-04	1.14E-05
1100	4.92E-03	1.94E-03	7.70E-03	1.11E-03	6.16E-04	1.11E-03	5.69E-04	3.41E-04	1.54E-04
1200	2.31E-03	7.70E-03	7.70E-03	7.70E-03	6.16E-04	4.00E-04	1.65E-04	1.65E-04	1.65E-05
1270	2.06E-03	1.23E-03	8.01E-04	5.85E-04	5.85E-04	1.11E-04	5.85E-04	1.11E-04	3.08E-05
1340	1.65E-03	1.11E-03	1.11E-03	4.33E-04	2.16E-03	3.62E-04	1.11E-04	1.11E-04	1.11E-05
1340	1.63E-03	8.01E-04	5.31E-04	5.31E-04	5.31E-04	2.16E-04	6.16E-04	6.16E-04	6.16E-05
1340	1.61E-03	8.66E-04	8.66E-04	8.66E-04	8.66E-04	2.16E-04	6.16E-04	6.16E-04	6.16E-05
1400	1.29E-03	1.08E-03	5.54E-04	2.46E-04	2.46E-04	1.11E-04	5.54E-04	1.11E-04	1.11E-05
1400	1.63E-03	8.43E-04	6.17E-04	1.87E-04	1.87E-04	5.54E-04	3.00E-05	3.00E-05	3.00E-05
1440	2.16E-03	7.00E-04	5.85E-04	3.00E-04	3.00E-04	2.16E-04	6.16E-04	6.16E-04	6.16E-05

Table A1e—Twenty-Minute Averages of  $dN/dr$  (cm $^{-3}$   $\mu\text{m}^{-1}$ ) vs Radius (μm)

PENNSYLVANIA		DISTRIBUTION TABULATION		PROCESSED ON 27-WPP-31											
NEFLB532: OH	FITZPOY	0.12	0.15	0.18	0.22	0.26	0.29	0.33	1.23	2.18	3.12	4.00	4.00		
FHD0105	---	7.8	211	1500	0.80E-01	7.47E-02	2.05E-02	6.28E-01	2.93E-01	1.55E-01	6.73E-00	5.29E-01	4.42E-02		
7.8	212	300	0.00E-01	1.32E-03	9.05E-02	6.22E-02	4.16E-02	2.80E-02	1.77E-02	4.33E-00	1.50E-01	4.92E-02	1.65E-02		
		8.20	0.00E-01	2.94E-02	7.11E-02	4.07E-02	2.53E-02	1.72E-02	1.10E-02	2.76E-00	1.38E-01	4.62E-02	1.74E-02		
		9.10	0.00E-01	1.01E-02	5.35E-02	2.47E-02	2.00E-02	1.54E-02	1.02E-02	1.70E-00	1.51E-01	4.51E-02	1.51E-01		
		10.00	0.00E-01	4.94E-02	4.01E-02	4.04E-02	2.37E-02	1.40E-02	8.47E-01	5.57E-01	1.14E-00	1.18E-01	3.56E-02	1.31E-01	
		11.20	0.00E-01	6.35E-02	3.34E-02	2.21E-02	1.36E-02	7.57E-01	4.44E-01	1.29E-00	1.18E-01	4.92E-02	1.32E-01		
		9.49	0.00E-01	1.11E-03	5.13E-02	5.08E-02	3.67E-02	2.35E-02	2.49E-02	1.54E-02	3.52E-00	2.06E-01	6.66E-02	2.07E-01	
		10.00	0.00E-01	1.19E-03	6.13E-02	5.24E-02	3.81E-02	2.51E-02	1.72E-02	8.36E-00	2.45E-01	6.23E-02	2.02E-01		
		10.20	0.00E-01	8.82E-02	6.24E-02	5.48E-02	3.48E-02	2.16E-02	1.47E-02	8.36E-00	2.04E-01	6.23E-02	2.02E-01		
		10.40	0.00E-01	8.40E-02	5.26E-02	5.67E-02	2.48E-02	1.47E-02	7.60E-01	2.17E-00	2.57E-01	8.28E-02	2.64E-02	2.64E-02	
		11.00	0.00E-01	8.00E-01	8.36E-02	5.51E-02	3.35E-02	2.27E-02	1.32E-02	7.83E-01	1.97E-00	2.96E-01	1.12E-01	3.43E-02	
		11.40	0.00E-01	4.53E-02	5.23E-02	1.71E-02	9.82E-01	5.68E-01	3.54E-01	5.68E-00	2.16E-01	7.28E-02	2.57E-01	1.64E-02	
		12.20	0.00E-01	1.01E-02	6.70E-02	1.88E-02	1.24E-02	2.36E-02	1.37E-02	7.15E-01	1.71E-00	1.55E-01	4.57E-01	1.64E-02	
		12.40	0.00E-01	1.34E-03	7.14E-02	2.65E-02	1.64E-02	1.64E-02	9.89E-01	5.95E-01	1.83E-00	1.73E-01	4.25E-02	1.52E-01	
		13.00	0.00E-01	1.26E-03	8.10E-02	2.19E-02	1.16E-02	5.42E-01	4.07E-01	1.41E-00	1.41E-01	3.65E-02	1.33E-01	1.33E-02	
		13.20	0.00E-01	5.53E-02	4.36E-02	4.57E-02	3.85E-02	2.99E-02	5.42E-01	1.54E-00	2.32E-00	6.46E-02	2.64E-02	2.64E-02	
		13.40	0.00E-01	1.39E-02	6.04E-02	2.61E-02	2.62E-02	1.12E-02	1.32E-02	9.32E-00	2.94E-01	2.48E-02	2.02E-01	1.80E-02	
		14.20	0.00E-01	4.53E-02	3.45E-02	1.42E-02	3.17E-02	2.01E-02	1.38E-02	2.33E-00	2.94E-01	4.44E-02	2.93E-02	2.93E-02	
		14.40	0.00E-01	4.61E-02	1.73E-02	5.51E-01	3.01E-01	3.01E-01	1.81E-01	8.07E-00	9.89E-02	2.95E-02	2.95E-02	2.95E-02	
		15.00	0.00E-01	3.22E-02	1.11E-02	4.56E-01	3.53E-01	2.58E-01	2.26E-01	1.14E-00	1.25E-01	2.72E-02	1.05E-02	1.06E-02	
		7.8	213	840	0.00E-01	9.62E-02	6.38E-02	4.23E-02	3.74E-02	2.46E-02	1.95E-02	5.05E-00	1.60E-01	6.52E-02	2.51E-02
		3.20	0.00E-01	1.46E-03	8.29E-02	5.21E-02	4.19E-02	3.09E-02	2.42E-02	2.75E-00	2.26E-01	9.77E-02	4.77E-02	4.77E-02	
		3.49	0.00E-01	1.25E-03	8.25E-02	5.34E-02	4.12E-02	2.80E-02	1.95E-02	2.58E-00	2.62E-01	1.14E-01	4.68E-02	1.61E-01	
		10.00	0.00E-01	1.32E-03	9.33E-02	6.17E-02	3.48E-02	2.94E-02	2.14E-02	3.62E-00	1.85E-01	2.71E-02	2.96E-01	2.96E-02	
		10.20	0.00E-01	1.32E-03	9.36E-02	6.70E-02	4.78E-02	3.03E-02	2.74E-02	4.52E-00	1.54E-01	2.58E-02	1.32E-01	1.32E-02	
		10.40	0.00E-01	1.61E-03	1.01E-03	7.04E-02	5.25E-02	3.71E-02	3.41E-02	6.16E-00	1.63E-01	2.73E-02	1.39E-01	1.39E-02	
		11.00	0.00E-01	2.61E-03	1.41E-03	8.24E-02	6.46E-02	4.69E-02	3.41E-02	6.63E-00	2.73E-01	6.97E-02	1.39E-01	1.39E-02	
		11.20	0.00E-01	3.98E-03	1.85E-03	1.06E-03	8.52E-02	5.95E-02	4.10E-02	4.10E-02	6.62E-01	9.36E-01	6.36E-02	1.36E-01	
		11.40	0.00E-01	4.32E-03	2.11E-03	1.22E-03	9.84E-03	6.18E-02	4.10E-02	2.46E-01	3.17E-01	1.42E-01	8.57E-02	1.21E-01	
		12.00	0.00E-01	4.57E-03	1.99E-03	1.99E-03	1.02E-03	7.21E-02	4.95E-02	2.35E-01	2.65E-01	1.24E-01	7.52E-02	1.24E-01	
		12.40	0.00E-01	4.37E-03	2.25E-03	1.37E-03	9.42E-03	6.56E-02	4.85E-02	2.36E-01	2.43E-01	1.08E-01	6.59E-02	1.08E-01	
		12.60	0.00E-01	5.13E-03	2.49E-03	1.57E-03	1.18E-03	8.13E-02	6.17E-02	2.46E-01	2.9E-01	2.04E-01	8.39E-02	4.87E-02	
		12.80	0.00E-01	5.13E-03	2.49E-03	1.57E-03	1.18E-03	8.13E-02	6.17E-02	2.46E-01	2.9E-01	2.04E-01	8.39E-02	4.87E-02	
		7.8	215	840	0.00E-01	1.00E-02	1.87E-01	6.02E-00	2.58E-00	8.50E-01	2.26E-00	2.21E-01	2.54E-02	1.45E-03	1.45E-03
		9.00	0.00E-01	1.31E-03	5.42E-02	5.42E-01	6.02E-00	2.58E-00	6.02E-00	7.53E-01	2.27E-02	4.62E-03	1.60E-03	1.60E-03	
		9.20	0.00E-01	1.32E-03	5.42E-02	5.42E-01	6.02E-00	2.58E-00	6.02E-00	7.53E-01	2.27E-02	4.62E-03	1.60E-03	1.60E-03	
		9.40	0.00E-01	1.35E-03	5.66E-02	5.66E-01	1.03E-01	6.02E-00	2.58E-00	6.02E-00	7.53E-01	2.27E-02	4.62E-03	1.60E-03	
		10.00	0.00E-01	2.25E-02	7.23E-01	2.32E-01	1.72E-01	6.88E-00	3.76E-00	4.82E-01	6.66E-02	1.47E-02	4.50E-03	1.47E-02	
		10.40	0.00E-01	1.95E-02	5.22E-01	1.63E-01	9.46E-00	3.44E-00	4.52E-00	3.90E-00	5.18E-02	1.0E-02	5.51E-03	3.05E-03	
		11.00	0.00E-01	2.46E-02	9.10E-02	2.32E-01	1.49E-01	1.03E-00	8.60E-00	6.78E-00	4.30E-02	8.68E-02	1.00E-02	2.89E-03	
		11.20	0.00E-01	2.49E-02	7.16E-01	9.46E-00	1.38E-01	1.38E-00	5.16E-00	6.78E-00	3.332E-01	4.30E-02	1.51E-03	1.51E-03	
		11.40	0.00E-01	2.48E-02	7.13E-01	9.46E-00	1.38E-01	1.38E-00	5.16E-00	6.78E-00	3.332E-01	4.30E-02	1.51E-03	1.51E-03	
		12.00	0.00E-01	2.32E-02	9.34E-02	2.32E-01	2.08E-01	2.08E-00	8.60E-00	9.79E-00	3.57E-01	4.42E-02	1.07E-02	3.73E-03	
		12.40	0.00E-01	2.32E-02	9.34E-02	2.32E-01	2.08E-01	2.08E-00	8.60E-00	9.79E-00	3.57E-01	4.42E-02	1.07E-02	3.73E-03	
		12.80	0.00E-01	3.03E-02	1.33E-02	5.51E-01	2.58E-01	2.58E-01	1.03E-01	4.51E-01	5.15E-01	1.03E-01	5.02E-02	1.80E-02	

Table A1e (Continued)  
(PROCESSED ON 27-AFR-81)

PROGRAM H40GLT: AEROSOL DISTRIBUTION TABULATION									
NPLF532: ON FITZROY		RADIUS		5.97		6.93		7.88	
78	212	809	6.71E-03	5.48E-03	2.46E-03	3.14E-03	1.08E-03	1.54E-03	1.39E-03
820	5.67E-03	4.50E-03	2.22E-03	2.83E-03	1.35E-03	1.32E-03	1.02E-03	7.03E-04	9.24E-04
840	6.47E-03	4.71E-03	2.77E-03	2.96E-03	1.11E-03	1.57E-03	1.26E-03	6.93E-04	6.16E-04
900	5.27E-03	4.13E-03	2.06E-03	2.63E-03	8.62E-04	1.20E-03	4.00E-04	6.16E-04	2.38E-04
920	7.11E-03	4.63E-03	2.68E-03	2.89E-03	7.00E-04	1.11E-03	6.16E-04	5.85E-04	1.10E-04
940	6.82E-03	6.13E-03	2.96E-03	3.62E-03	1.11E-03	1.91E-03	3.39E-04	1.39E-04	1.23E-04
1000	1.32E-02	8.44E-03	5.36E-03	5.67E-03	1.08E-03	3.20E-03	1.05E-03	5.45E-04	3.08E-04
1020	9.08E-03	5.14E-03	3.69E-03	3.91E-03	1.05E-03	1.83E-03	1.42E-03	9.45E-04	4.01E-04
1040	1.08E-02	4.62E-03	3.94E-03	4.62E-03	2.03E-03	2.40E-03	7.70E-04	7.00E-04	6.77E-04
1080	1.47E-02	8.19E-03	6.59E-03	5.75E-03	2.56E-03	2.56E-03	1.23E-03	8.93E-04	8.62E-04
1140	1.09E-02	4.99E-03	3.55E-03	3.66E-03	1.02E-03	1.02E-03	6.54E-03	6.54E-03	6.16E-04
1220	7.48E-03	3.51E-03	2.83E-03	2.09E-03	9.85E-04	1.23E-03	4.62E-04	3.39E-04	4.93E-04
1240	1.95E-02	6.19E-03	7.33E-03	4.90E-03	2.77E-03	2.83E-03	1.79E-03	1.08E-03	1.16E-04
1260	7.08E-03	2.74E-03	2.49E-03	1.45E-03	1.11E-03	6.62E-04	5.23E-04	5.45E-04	4.00E-04
1300	6.89E-03	3.20E-03	1.77E-03	1.35E-03	9.85E-04	1.20E-03	4.93E-04	4.93E-04	2.77E-05
1320	1.13E-02	1.65E-02	5.97E-03	9.02E-03	5.76E-03	5.63E-02	6.68E-03	4.93E-04	9.24E-05
1340	1.27E-01	1.78E-01	1.21E-01	1.38E-01	1.37E-01	1.57E-01	5.11E-01	4.93E-03	1.23E-03
1400	2.06E-02	2.35E-02	1.63E-02	2.61E-02	2.03E-02	2.29E-02	1.60E-02	1.80E-02	8.30E-02
1420	5.05E-03	6.66E-03	4.40E-03	7.39E-03	1.71E-03	5.54E-04	4.93E-04	4.31E-04	1.01E-02
1440	6.13E-03	1.79E-03	2.56E-03	1.05E-03	9.24E-04	5.77E-02	1.11E-01	6.17E-02	1.42E-02
1500	6.77E-03	2.31E-03	2.65E-03	8.93E-04	1.26E-03	8.31E-04	4.531E-04	3.39E-04	2.77E-04
78	213	840	1.23E-02	1.31E-02	8.71E-03	1.24E-02	7.61E-03	8.47E-03	8.44E-03
900	2.10E-02	3.09E-02	2.07E-02	1.11E-02	3.44E-02	2.07E-02	2.85E-02	3.03E-02	2.72E-02
940	1.83E-02	1.75E-02	1.67E-02	1.33E-02	1.78E-02	9.37E-03	8.131E-02	9.37E-02	9.37E-02
1000	1.26E-02	1.13E-02	5.23E-03	8.04E-03	4.13E-03	5.27E-03	4.195E-03	6.40E-03	2.3E-03
1020	8.47E-03	8.90E-03	3.51E-03	5.54E-03	5.54E-03	3.51E-03	3.235E-03	3.235E-03	4.03E-03
1040	1.65E-02	1.83E-02	1.03E-02	1.89E-02	1.28E-02	1.28E-02	1.85E-03	1.62E-03	1.57E-03
1100	4.36E-02	6.00E-02	4.23E-02	6.35E-02	5.03E-02	5.93E-02	7.06E-02	6.12E-02	6.68E-02
1120	6.30E-02	9.00E-02	6.41E-02	9.31E-02	8.35E-02	9.67E-02	9.18E-02	9.67E-02	1.11E-01
1140	5.95E-02	8.31E-02	6.35E-02	7.77E-02	7.77E-02	9.16E-02	1.06E-01	9.15E-02	1.11E-01
1200	4.58E-02	6.48E-02	4.62E-02	5.49E-02	5.65E-02	6.68E-02	6.88E-02	5.65E-02	5.65E-02
1220	4.39E-02	6.14E-02	4.54E-02	6.81E-02	5.56E-02	5.56E-02	6.95E-02	5.51E-02	4.11E-02
1240	3.25E-02	4.24E-02	2.63E-02	4.18E-02	3.63E-02	3.68E-02	4.46E-02	3.66E-02	3.09E-02
1300	3.73E-02	4.94E-02	3.17E-02	4.76E-02	4.26E-02	4.68E-02	5.40E-02	4.61E-02	4.58E-02
78	215	840	8.31E-04	6.77E-04	2.46E-04	4.00E-04	1.23E-04	1.54E-04	0.00E-01
900	8.62E-04	8.01E-04	1.54E-04	4.00E-04	1.54E-04	1.85E-04	1.85E-04	6.16E-05	0.00E-01
940	1.97E-03	1.02E-03	7.08E-04	4.00E-04	5.23E-04	4.93E-04	1.23E-05	1.54E-04	8.24E-05
980	2.59E-03	1.63E-03	1.11E-03	5.23E-04	5.23E-04	5.39E-04	3.08E-04	1.54E-04	3.08E-05
1000	2.71E-03	1.63E-03	8.31E-04	4.3E-04	5.13E-04	4.90E-04	1.54E-04	1.54E-04	1.54E-05
1020	2.37E-03	1.11E-03	7.08E-04	4.39E-04	4.62E-04	5.13E-04	1.23E-05	6.16E-05	6.16E-05
1040	2.00E-03	9.83E-04	6.77E-04	3.31E-04	3.17E-04	2.77E-04	1.46E-04	1.54E-04	1.00E-01
1100	1.63E-03	1.03E-03	7.39E-04	2.17E-04	2.17E-04	2.77E-04	2.16E-04	2.16E-04	2.16E-05
1120	1.09E-04	3.64E-04	1.54E-04	2.14E-05	2.14E-05	2.14E-05	2.14E-05	2.14E-05	2.14E-05
1140	1.72E-03	1.05E-03	4.00E-04	4.3E-04	6.17E-04	2.23E-04	3.08E-05	3.08E-05	3.08E-05
1160	2.10E-03	1.08E-03	6.17E-04	2.15E-04	4.00E-04	1.54E-04	1.54E-04	1.54E-04	1.54E-04
1200	2.05E-03	9.85E-04	6.47E-04	4.00E-04	1.54E-04	9.16E-04	9.16E-04	9.16E-04	9.16E-04
1240	3.82E-03	1.33E-03	1.33E-03	7.08E-04	7.08E-04	3.39E-04	3.39E-04	2.77E-04	2.77E-04

## TRUSTY AND COSDEN

Table A2a — Twenty-Minute Averages of Measured and Calculated Parameters  
(PROCESSED ON 28-APR-81)

PROGRAM A43GLT: AEROSOL DATA TABULATION						NUM	AREA	VOL	0.55	1.05	3.80	10.0	
NRL6532: ON FITZROY	YEAR	DAY	TIME	AT	RH								
78	196	1320	11.3	80.8	1.1	278	8.1	173.	35.9	23.0	0.076	0.046	
			1340	76.2	2.0	303	4.5	203.	39.7	24.3	0.082	0.048	
			1400	80.3	1.6	309	8.0	177.	34.5	21.7	0.070	0.043	
			1420	12.0	80.8	1.7	313	8.5	180.	35.1	21.2	0.069	0.041
			1440	12.1	80.3	2.0	310	8.5	172.	33.5	21.1	0.072	0.043
			1500	12.2	80.3	2.1	312	8.0	188.	37.4	23.4	0.077	0.041
			1520	11.8	77.8	2.5	309	8.0	187.	37.2	23.1	0.076	0.046
			1540	12.6	78.5	3.0	308	8.6	190.	38.0	23.8	0.078	0.045
			1600	12.1	77.6	3.3	299	8.2	190.	42.2	27.5	0.091	0.056
			1620	12.7	79.4	3.3	299	8.7	195.	42.2	27.5	0.095	0.060
			1640	12.7	81.0	3.2	300	8.9	197.	43.8	29.3	0.094	0.060
			1700	12.3	81.9	3.1	305	8.8	207.	43.8	28.3	0.082	0.057
			1720	12.7	79.8	2.9	303	8.8	193.	38.0	23.3	0.079	0.046
			1740	12.7	79.9	2.6	308	8.8	184.	35.4	21.8	0.072	0.042
			1800	12.3	80.4	2.7	306	8.6	192.	37.2	23.1	0.076	0.045
78	197	820	11.9	94.7	4.9	279	9.9	358.	118.8	120.1	0.286	0.232	
		840	12.2	95.6	4.2	275	10.2	346.	123.7	141.1	0.299	0.253	
		900	9.6	118.0	5.1	285	10.5	552.	219.3	307.6	0.539	0.479	
		920	12.0	99.3	4.8	285	10.4	923.	464.4	1130.7	1.133	1.100	
		940	12.0	100.0	4.7	287	10.5	735.	391.7	862.3	0.969	0.934	
		1000	8.7	128.0	4.7	281	10.8	631.	397.3	1400.0	0.959	0.925	
		1020	12.0	99.8	4.7	280	10.5	445.	236.7	642.5	0.588	0.530	
		1040	12.0	99.4	4.6	281	10.4	342.	147.6	278.3	0.364	0.295	
		1100	12.1	98.9	4.5	282	10.5	293.	120.7	231.7	0.295	0.231	
		1120	12.1	98.7	4.6	282	10.4	201.	72.3	128.9	0.172	0.131	
		1140	12.1	98.1	4.3	283	10.4	177.	57.5	95.5	0.134	0.098	
		1200	11.7	101.0	4.7	289	10.4	195.	58.2	99.8	0.132	0.093	
		1220	12.1	98.0	4.7	275	10.3	220.	74.0	146.3	0.173	0.125	
		1240	12.0	98.6	4.5	275	10.4	260.	99.5	227.1	0.238	0.182	
		1300	11.7	101.0	4.9	284	10.4	248.	81.4	152.5	0.190	0.136	
		1400	11.9	101.0	4.9	279	10.6	369.	180.9	339.7	0.451	0.403	
		1420	12.2	99.0	4.9	281	10.5	466.	181.2	308.4	0.448	0.346	
		1440	12.2	98.8	5.2	284	10.5	411.	130.2	161.2	0.314	0.214	
		1500	12.2	98.5	5.2	282	10.5	437.	151.5	199.3	0.375	0.268	
		1520	12.0	100.0	5.0	284	10.5	399.	142.8	187.9	0.351	0.269	
		1540	12.2	98.5	5.1	282	10.5	363.	136.6	188.2	0.338	0.267	
79	120	1640	7.3	135.0	6.9	292	10.4	162.	63.5	200.4	0.142	0.114	
		1400	19.7	107.0	6.5	284	10.3	144.	52.1	141.4	0.115	0.092	
		1420	11.3	97.7	6.1	284	10.2	104.	36.3	98.0	0.080	0.059	
		1440	11.9	97.0	6.5	286	10.1	160.	52.8	116.9	0.118	0.093	
		1500	11.6	97.9	6.5	286	10.0	153.	49.7	113.9	0.110	0.090	
		1540	11.1	99.4	7.4	284	9.8	105.	66.6	191.1	0.143	0.123	
		1540	11.8	94.7	7.1	283	9.8	104.	58.5	178.6	0.119	0.095	

Table A2b—Twenty-Minute Averages of Measured and Calculated Parameters  
(PROCESSED ON 28-APP-81)

PP-155PH1 H-45GLT: REPOSOL DATA TABULATION									
NFL6532: OH FITZROY		YEAR DAY TIME		RH		WS		WD	
72	128	1500	10.9	98.4	8.1	286	9.6	85.	WVP
1529	11.8	90.8	7.4	285	9.4	62.	28.2	83.6	0.065
1640	11.6	92.0	7.8	286	9.4	62.	26.1	77.7	0.059
1700	10.5	98.7	7.0	280	9.4	64.	29.0	92.0	0.066
73	201	800	9.7	92.3	2.3	189	8.4	21.	3.8
		820	9.3	92.4	2.0	229	8.4	12.	2.8
		840	9.9	92.3	1.5	236	8.4	15.	3.7
		900	9.7	92.4	1.1	165	8.3	20.	4.4
		920	10.5	87.9	0.9	132	8.3	24.	4.5
		940	10.5	87.7	1.4	129	8.4	23.	4.9
		1000	10.6	87.5	1.6	127	8.4	25.	5.3
		1020	10.9	85.4	2.0	124	8.3	27.	5.2
		1040	10.9	81.8	2.7	125	8.0	31.	6.0
		1100	11.1	78.5	3.0	124	7.8	32.	7.1
		1300	10.7	91.3	4.8	262	8.8	72.	7.8
		1320	9.0	101.0	5.3	266	8.7	103.	10.2
		1340	8.9	103.0	5.4	268	8.8	117.	11.8
		1400	10.5	97.3	5.4	273	9.3	121.	14.4
		1420	10.7	97.1	5.2	272	9.4	116.	11.3
		1440	11.2	95.4	5.3	269	9.5	128.	134.6
78	203	1200	10.6	103.0	2.9	265	9.8	11.	12.2
		1220	11.3	98.8	2.4	260	9.9	13.	11.4
		1240	11.3	100.0	2.3	268	10.0	20.	16.0
		1300	11.4	99.8	3.5	285	10.1	14.	9.0
		1320	7.7	111.0	7.0	268	8.7	53.	25.6
78	205	1840	9.9	85.4	5.7	273	7.8	23.	15.3
		1900	10.1	85.9	5.3	268	7.9	20.	14.6
		1920	10.0	81.3	4.9	271	7.5	18.	11.3
		1940	10.2	82.0	4.7	263	7.7	15.	10.7
		2000	10.1	80.3	4.7	275	7.4	17.	9.6
		2020	10.4	78.0	4.0	271	7.4	14.	8.1
		2040	10.6	77.4	4.2	261	7.4	13.	6.7
		2100	10.0	78.7	4.0	264	7.3	12.	7.0
		2120	10.2	81.0	3.6	277	7.6	14.	9.0
		2140	10.0	81.4	2.9	288	7.5	14.	8.7
78	206	1140	10.6	95.3	7.2	283	8.2	52.	24.2
		1500	10.6	86.1	6.9	274	8.3	56.	27.5
		1220	10.3	87.4	7.2	274	8.2	57.	29.1
		1240	10.6	86.7	7.1	275	8.3	56.	29.1
		1500	11.5	86.3	7.0	273	8.8	55.	31.2
		1720	11.1	88.2	7.1	277	8.7	55.	32.6

## TRUSTY AND COSDEN

Table A2c - Twenty-Minute Averages of Measured and Calculated Parameters  
 (PROCESSED ON 28-HFR-81)

PROGRAM A43GLT: H2O FIT2POY		YEAR	DIV	TIME	AT	RH	WS	WD	UVP	NUM	AREA	VOL	0.55	1.05	3.80	10.0
78	206	1340	8.6	92.6	7.7	284	7.8	78.	38.0	131.3	0.087	0.083	0.0481	0.0196		
1400	11.1	88.2	7.2	277	8.7	64.	42.6	150.9	0.097	0.097	0.0656	0.0299				
1420	11.4	88.2	7.1	274	8.9	60.	42.2	184.7	0.098	0.098	0.0652	0.0288				
1440	11.4	88.4	7.2	272	8.9	57.	24.0	80.3	0.054	0.056	0.0293	0.0119				
1500	11.4	88.2	7.4	275	8.9	56.	21.4	67.8	0.048	0.042	0.0236	0.0100				
1520	11.2	89.0	7.6	275	8.9	54.	22.0	89.0	0.048	0.043	0.0277	0.0158				
1540	11.3	88.4	7.4	273	8.9	52.	23.5	117.5	0.058	0.046	0.0341	0.0188				
79	207	840	10.7	79.8	3.1	244	7.7	11.	2.6	4.3	0.005	0.004	0.0019	0.0005		
		900	10.4	81.4	2.9	219	7.7	13.	2.6	4.2	0.005	0.004	0.0019	0.0005		
		920	10.7	81.1	3.0	208	7.8	13.	2.5	4.5	0.005	0.004	0.0017	0.0004		
		940	10.6	83.9	3.8	207	8.0	14.	2.8	4.6	0.005	0.005	0.0022	0.0009		
		1000	10.3	86.5	4.2	258	8.1	19.	4.6	9.5	0.009	0.008	0.0041	0.0013		
		1020	10.5	86.2	3.8	256	8.2	18.	4.6	11.6	0.009	0.008	0.0048	0.0017		
		1040	10.6	84.9	3.4	254	8.1	15.	3.4	7.1	0.007	0.006	0.0028	0.0010		
		1100	10.4	85.2	3.0	243	8.0	13.	2.7	4.2	0.005	0.004	0.0019	0.0005		
		1120	10.7	85.1	3.0	248	8.2	12.	2.6	4.3	0.005	0.004	0.0019	0.0005		
		1140	11.2	81.9	2.8	162	8.2	17.	2.4	4.4	0.003	0.003	0.0011	0.0003		
		1200	11.2	82.1	3.5	133	8.2	11.	2.3	5.2	0.004	0.004	0.0018	0.0007		
		1220	11.2	86.4	3.2	137	8.6	17.	4.1	12.9	0.006	0.007	0.0047	0.0020		
		1240	10.6	90.0	4.5	307	8.6	11.	3.8	8.9	0.009	0.008	0.0038	0.0012		
		1340	10.2	92.1	3.9	270	8.6	8.	3.9	12.9	0.009	0.009	0.0047	0.0019		
		1400	10.4	91.7	3.8	264	8.7	9.	4.1	11.9	0.010	0.009	0.0046	0.0017		
		1420	10.3	93.2	4.7	277	8.8	25.	7.8	18.7	0.017	0.014	0.0065	0.0027		
		1440	10.2	93.8	3.9	272	8.7	36.	9.7	18.4	0.019	0.016	0.0069	0.0025		
		1500	10.1	93.5	4.0	266	8.6	38.	10.4	17.4	0.023	0.018	0.0068	0.0022		
		1520	9.7	94.0	3.4	255	8.5	60.	14.2	19.5	0.029	0.023	0.0084	0.0023		
		1540	9.9	93.2	2.7	256	8.5	47.	10.9	13.7	0.017	0.017	0.0054	0.0014		
		1600	9.9	93.7	1.8	249	8.6	34.	8.1	9.7	0.017	0.013	0.0044	0.0010		
		1620	10.1	94.4	1.1	186	8.7	24.	6.1	8.6	0.013	0.010	0.0037	0.0010		
		1640	10.2	94.1	0.6	193	8.8	18.	5.1	7.2	0.011	0.009	0.0032	0.0008		
79	208	820	10.0	95.0	2.3	285	8.8	6.	1.9	2.3	0.002	0.003	0.0006	0.0002		
		840	10.2	94.3	2.4	278	8.5	14.	2.8	3.6	0.004	0.003	0.0009	0.0003		
		960	9.9	93.8	2.1	215	8.7	15.	2.1	4.9	0.005	0.005	0.0015	0.0004		
		1000	10.5	91.5	2.5	215	8.7	17.	3.5	2.3	0.007	0.006	0.0020	0.0005		
		1010	10.5	90.1	2.3	274	8.3	12.	2.3	2.9	0.014	0.014	0.0013	0.0003		
		1030	10.5	91.5	2.1	264	8.7	10.	1.4	2.6	0.015	0.015	0.0031	0.0018		
		1040	10.5	91.8	2.4	261	8.7	13.	2.6	4.3	0.014	0.014	0.0016	0.0005		
		1100	9.9	93.8	2.7	212	8.5	19.	3.4	4.2	0.016	0.016	0.0022	0.0004		
		1120	10.4	91.6	2.4	264	8.6	40.	7.1	5.3	0.013	0.019	0.0066	0.0017		
		1130	10.8	90.5	4.4	278	8.8	56.	12.0	15.6	0.024	0.018	0.0061	0.0016		
		1240	10.7	90.6	5.6	215	8.7	70.	13.1	14.8	0.025	0.019	0.0068	0.0013		
		1300	10.7	91.2	5.3	215	8.8	77.	14.1	16.5	0.019	0.019	0.0068	0.0013		

Table A2d — Twenty-Minute Averages of Measured and Calculated Parameters  
 (PROCESSED ON 28-APR-81)

NPL6532: ON FITZROY										AEROSOL DATA TABULATION									
YEAR	DAY	TIME	RH	WS	WD	LWP	NUM	AREA	VOL	0.55	1.05	3.80	10.0	0.0071	0.0018	0.0070	0.0017	0.0061	0.0015
78	208	1320	10.9	88.3	3.7	271	8.6	57.	12.1	16.3	0.023	0.020	0.0071	0.0018	0.0062	0.0015	0.0061	0.0015	
			11.1	84.5	4.3	277	8.1	44.	10.5	15.2	0.021	0.020	0.0070	0.0017	0.0060	0.0015	0.0060	0.0015	
			11.2	81.7	4.7	278	8.2	40.	9.7	13.9	0.020	0.020	0.0069	0.0016	0.0058	0.0015	0.0058	0.0015	
			11.3	81.4	4.5	284	8.4	42.	10.6	17.6	0.022	0.020	0.0074	0.0021	0.0068	0.0016	0.0068	0.0016	
			11.4	83.3	3.3	289	8.3	42.	10.1	14.5	0.020	0.019	0.0068	0.0016	0.0067	0.0015	0.0067	0.0015	
			11.5	82.0	3.9	272	8.3	35.	10.0	17.3	0.021	0.021	0.0078	0.0021	0.0068	0.0016	0.0068	0.0016	
			11.6	82.0	4.4	276	8.4	33.	10.1	19.1	0.022	0.022	0.0083	0.0024	0.0078	0.0017	0.0078	0.0017	
			11.6	89.7	4.8	276	8.2	30.	9.9	20.1	0.022	0.022	0.0085	0.0025	0.0079	0.0017	0.0079	0.0017	
			11.6	82.1	4.7	278	8.4	39.	10.3	22.0	0.022	0.023	0.0093	0.0028	0.0081	0.0024	0.0081	0.0024	
			11.6	81.6	5.0	281	8.4	27.	9.9	18.7	0.020	0.020	0.0081	0.0024	0.0081	0.0024	0.0081	0.0024	
			11.6	82.2	4.8	279	8.1	21.	7.7	29.3	0.021	0.021	0.0075	0.0023	0.0075	0.0023	0.0075	0.0023	
			11.6	82.0	4.3	266	8.0	21.	7.7	19.1	0.021	0.021	0.0075	0.0023	0.0075	0.0023	0.0075	0.0023	
			11.6	89.7	4.8	277	8.1	20.	6.5	13.3	0.014	0.014	0.0069	0.0017	0.0069	0.0017	0.0069	0.0017	
			11.6	82.1	4.7	273	8.1	19.	6.1	12.2	0.013	0.013	0.0057	0.0015	0.0057	0.0015	0.0057	0.0015	
			11.6	81.6	5.0	277	8.0	19.	6.8	12.0	0.013	0.013	0.0053	0.0015	0.0053	0.0015	0.0053	0.0015	
			11.6	82.2	4.8	278	7.5	22.	6.8	11.7	0.015	0.015	0.0051	0.0014	0.0051	0.0014	0.0051	0.0014	
			11.6	78.0	4.3	263	8.0	24.	6.9	14.0	0.014	0.014	0.0059	0.0016	0.0059	0.0016	0.0059	0.0016	
			11.6	78.4	4.0	269	8.4	28.	7.5	14.0	0.015	0.015	0.0063	0.0019	0.0063	0.0019	0.0063	0.0019	
			11.6	78.4	4.4	277	8.1	19.	6.1	12.0	0.013	0.013	0.0055	0.0015	0.0055	0.0015	0.0055	0.0015	
			11.6	77.8	4.7	273	8.1	19.	6.8	12.0	0.013	0.013	0.0053	0.0015	0.0053	0.0015	0.0053	0.0015	
			11.6	78.0	4.5	280	7.5	22.	6.8	11.7	0.015	0.015	0.0051	0.0014	0.0051	0.0014	0.0051	0.0014	
			11.6	78.0	4.6	268	8.4	28.	7.5	14.0	0.015	0.015	0.0055	0.0016	0.0055	0.0016	0.0055	0.0016	
			11.6	78.4	4.5	274	8.6	34.	8.3	16.0	0.017	0.017	0.0055	0.0021	0.0055	0.0021	0.0055	0.0021	
			11.6	75.7	4.9	278	7.5	34.	8.3	16.0	0.017	0.017	0.0055	0.0021	0.0055	0.0021	0.0055	0.0021	
			11.6	76.7	4.9	274	8.6	34.	8.3	16.0	0.017	0.017	0.0055	0.0021	0.0055	0.0021	0.0055	0.0021	
			11.6	76.7	4.6	265	8.6	34.	8.3	16.0	0.017	0.017	0.0055	0.0021	0.0055	0.0021	0.0055	0.0021	
			11.6	76.7	4.5	274	8.6	34.	8.3	16.0	0.017	0.017	0.0055	0.0021	0.0055	0.0021	0.0055	0.0021	
			11.6	76.7	4.6	274	8.6	34.	8.3	16.0	0.017	0.017	0.0055	0.0021	0.0055	0.0021	0.0055	0.0021	
			11.6	76.7	4.7	274	8.6	34.	8.3	16.0	0.017	0.017	0.0055	0.0021	0.0055	0.0021	0.0055	0.0021	
			11.6	76.7	4.8	274	8.6	34.	8.3	16.0	0.017	0.017	0.0055	0.0021	0.0055	0.0021	0.0055	0.0021	
			11.6	76.7	4.9	274	8.6	34.	8.3	16.0	0.017	0.017	0.0055	0.0021	0.0055	0.0021	0.0055	0.0021	
			11.6	76.7	4.8	274	8.6	34.	8.3	16.0	0.017	0.017	0.0055	0.0021	0.0055	0.0021	0.0055	0.0021	
			11.6	76.7	4.7	274	8.6	34.	8.3	16.0	0.017	0.017	0.0055	0.0021	0.0055	0.0021	0.0055	0.0021	
			11.6	76.7	4.6	274	8.6	34.	8.3	16.0	0.017	0.017	0.0055	0.0021	0.0055	0.0021	0.0055	0.0021	
			11.6	76.7	4.5	274	8.6	34.	8.3	16.0	0.017	0.017	0.0055	0.0021	0.0055	0.0021	0.0055	0.0021	
			11.6	76.7	4.4	274	8.6	34.	8.3	16.0	0.017	0.017	0.0055	0.0021	0.0055	0.0021	0.0055	0.0021	
			11.6	76.7	4.3	274	8.6	34.	8.3	16.0	0.017	0.017	0.0055	0.0021	0.0055	0.0021	0.0055	0.0021	
			11.6	76.7	4.2	274	8.6	34.	8.3	16.0	0.017	0.017	0.0055	0.0021	0.0055	0.0021	0.0055	0.0021	
			11.6	76.7	4.1	274	8.6	34.	8.3	16.0	0.017	0.017	0.0055	0.0021	0.0055	0.0021	0.0055	0.0021	
			11.6	76.7	4.0	274	8.6	34.	8.3	16.0	0.017	0.017	0.0055	0.0021	0.0055	0.0021	0.0055	0.0021	
			11.6	76.7	3.9	274	8.6	34.	8.3	16.0	0.017	0.017	0.0055	0.0021	0.0055	0.0021	0.0055	0.0021	
			11.6	76.7	3.8	274	8.6	34.	8.3	16.0	0.017	0.017	0.0055	0.0021	0.0055	0.0021	0.0055	0.0021	
			11.6	76.7	3.7	274	8.6	34.	8.3	16.0	0.017	0.017	0.0055	0.0021	0.0055	0.0021	0.0055	0.0021	
			11.6	76.7	3.6	274	8.6	34.	8.3	16.0	0.017	0.017	0.0055	0.0021	0.0055	0.0021	0.0055	0.0021	
			11.6	76.7	3.5	274	8.6	34.	8.3	16.0	0.017	0.017	0.0055	0.0021	0.0055	0.0021	0.0055	0.0021	
			11.6	76.7	3.4	274	8.6	34.	8.3	16.0	0.017	0.017	0.0055	0.0021	0.0055	0.0021	0.0055	0.0021	
			11.6	76.7	3.3	274	8.6	34.	8.3	16.0	0.017	0.017	0.0055	0.0021	0.0055	0.0021	0.0055	0.0021	
			11.6	76.7	3.2	274	8.6	34.	8.3	16.0	0.017	0.017	0.0055	0.0021	0.0055	0.0021	0.0055	0.0021	
			11.6	76.7	3.1	274	8.6	34.	8.3	16.0	0.017	0.017	0.0055	0.0021	0.0055	0.0021	0.0055	0.0021	
			11.6	76.7	3.0	274	8.6	34.	8.3	16.0	0.017	0.017	0.0055	0.0021	0.0055	0.0021	0.0055	0.0021	
			11.6	76.7	2.9	274	8.6	34.	8.3	16.0	0.017	0.017	0.0055	0.0021	0.0055	0.0021	0.0055	0.0021	
			11.6	76.7	2.8	274	8.6	34.	8.3	16.0	0.017	0.017	0.0055	0.0021	0.0055	0.0021	0.0055	0.0021	
			11.6	76.7	2.7	274	8.6	34.	8.3	16.0	0.017	0.017	0.0055	0.0021	0.0055	0.0021	0.0055	0.0021	
			11.6	76.7	2.6	274	8.6	34.	8.3	16.0	0.017	0.017	0.0055	0.0021	0.0055	0.0021	0.0055	0.0021	
			11.6	76.7	2.5	274	8.6	34.	8.3	16.0	0.017	0.017	0.0055	0.0021	0.0055	0.0021	0.0055	0.0021	
			11.6	76.7	2.4	274	8.6	34.	8.3	16.0	0.017	0.017	0.0055	0.0021	0.0055	0.0021	0.0055	0.0021	
			11.6	76.7	2.3	274	8.6	34.	8.3	16.0	0.017	0.017	0.0055	0.0021	0.0055	0.0021	0.0055	0.0021	
			11.6	76.7	2.2	274	8.6	34.	8.3	16.0	0.017	0.017	0.0055	0.0021	0.0055	0.0021	0.0055	0.0021	
			11.6	76.7	2.1	274	8.6	34.	8.3	16.0	0.017	0.017	0.0055	0.0021	0.0055	0.0021	0.0055	0.0021	
			11.6	76.7	2.0	274	8.6	34.	8.3	16.0	0.017	0.017	0.0055	0.0021	0.0055	0.0021	0.0055	0.0021	
			11.6	76.7	1.9	274	8.6	34.	8.3	16.0	0.017	0.017	0.0055	0.0021	0.0055	0.0021	0.0055	0.0021	
			11.6	76.7	1.8	274	8.6	34.	8.3	16.0	0.017	0.017	0.0055	0.0021	0				

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Table A2e — Twenty-Minute Averages of Measured and Calculated Parameters

FFOGESE3EP OR 28-HEP-31									
TEMP TIME	4T	FF	EF	EF	WVF	WVF	VOL	WVF	10.0
78 210	200	11.0	11.3	11.3	20.1	18.2	44.1	0.036	0.037
	220				21.9	20.5	60.3	0.044	0.046
240					19.1	14.7	42.0	0.051	0.053
1000	11.1	11.1	11.1	11.1	19.1	12.5	42.4	0.036	0.035
1020	11.1	11.1	11.1	11.1	19.1	12.5	42.4	0.029	0.031
1040	11.1	11.1	11.1	11.1	19.1	12.5	42.4	0.029	0.031
1140	11.1	11.1	11.1	11.1	19.1	12.5	42.4	0.029	0.031
1200	11.1	11.1	11.1	11.1	19.1	12.5	42.4	0.029	0.031
1240	11.1	11.1	11.1	11.1	19.1	12.5	42.4	0.029	0.031
1300	11.1	11.1	11.1	11.1	19.1	12.5	42.4	0.029	0.031
1320	11.1	11.1	11.1	11.1	19.1	12.5	42.4	0.029	0.031
1340	11.1	11.1	11.1	11.1	19.1	12.5	42.4	0.029	0.031
1400	11.1	11.1	11.1	11.1	19.1	12.5	42.4	0.029	0.031
1440	11.1	11.1	11.1	11.1	19.1	12.5	42.4	0.029	0.031
1540	11.1	11.1	11.1	11.1	19.1	12.5	42.4	0.029	0.031
78 211	210	11.0	11.0	11.0	20.1	17.6	44.1	0.036	0.037
	230				21.9	20.5	60.3	0.044	0.046
250					19.1	14.7	42.0	0.051	0.053
1000	11.1	11.1	11.1	11.1	19.1	12.5	42.4	0.036	0.035
1020	11.1	11.1	11.1	11.1	19.1	12.5	42.4	0.029	0.031
1040	11.1	11.1	11.1	11.1	19.1	12.5	42.4	0.029	0.031
1140	11.1	11.1	11.1	11.1	19.1	12.5	42.4	0.029	0.031
1200	11.1	11.1	11.1	11.1	19.1	12.5	42.4	0.029	0.031
1240	11.1	11.1	11.1	11.1	19.1	12.5	42.4	0.029	0.031
1300	11.1	11.1	11.1	11.1	19.1	12.5	42.4	0.029	0.031
1320	11.1	11.1	11.1	11.1	19.1	12.5	42.4	0.029	0.031
1340	11.1	11.1	11.1	11.1	19.1	12.5	42.4	0.029	0.031
1400	11.1	11.1	11.1	11.1	19.1	12.5	42.4	0.029	0.031
1440	11.1	11.1	11.1	11.1	19.1	12.5	42.4	0.029	0.031
1540	11.1	11.1	11.1	11.1	19.1	12.5	42.4	0.029	0.031
78 212	210	11.0	11.0	11.0	20.1	17.6	44.1	0.036	0.037
	230				21.9	20.5	60.3	0.044	0.046
250					19.1	14.7	42.0	0.051	0.053
1000	11.1	11.1	11.1	11.1	19.1	12.5	42.4	0.036	0.035
1020	11.1	11.1	11.1	11.1	19.1	12.5	42.4	0.029	0.031
1040	11.1	11.1	11.1	11.1	19.1	12.5	42.4	0.029	0.031
1140	11.1	11.1	11.1	11.1	19.1	12.5	42.4	0.029	0.031
1200	11.1	11.1	11.1	11.1	19.1	12.5	42.4	0.029	0.031
1240	11.1	11.1	11.1	11.1	19.1	12.5	42.4	0.029	0.031
1300	11.1	11.1	11.1	11.1	19.1	12.5	42.4	0.029	0.031
1320	11.1	11.1	11.1	11.1	19.1	12.5	42.4	0.029	0.031
1340	11.1	11.1	11.1	11.1	19.1	12.5	42.4	0.029	0.031
1400	11.1	11.1	11.1	11.1	19.1	12.5	42.4	0.029	0.031
1440	11.1	11.1	11.1	11.1	19.1	12.5	42.4	0.029	0.031
1540	11.1	11.1	11.1	11.1	19.1	12.5	42.4	0.029	0.031

Table A2f - Twenty-Minute Averages of Measured and Calculated Parameters  
(PROCESSED ON 28-APR-81)

PROGRAM A40GLT: AEROSOL DATA TABULATION									
NFL6532: OH FITZROY		YEAR	DAY	TIME	AT	RH	WS	WD	WVP
78	212	1020	11.8	99.0	5.5	300	10.3	91.	40.1
		1040	11.7	98.7	5.5	301	10.2	89.	40.8
		1100	11.0	103.0	5.3	300	10.1	86.	42.7
		1140	11.9	97.9	4.4	316	10.2	45.	25.8
		1200	12.0	97.3	4.3	305	10.2	52.	23.6
		1220	12.0	95.8	5.3	301	10.0	95.	50.4
		1240	11.6	94.2	5.2	304	9.6	96.	31.4
		1300	11.5	93.8	4.9	301	9.5	90.	26.7
		1320	11.1	96.0	5.5	302	9.5	101.	61.0
		1340	10.5	99.6	6.0	297	9.4	122.	552.0
		1400	10.6	97.9	5.5	298	9.4	78.	95.3
		1420	11.1	93.5	5.2	297	9.3	41.	14.8
		1440	11.7	99.8	5.3	300	9.3	27.	14.0
		1500	10.6	104.0	5.7	301	9.9	22.	15.4
78	213	840	12.0	99.6	5.0	277	10.4	126.	87.6
		900	12.0	99.8	5.4	277	10.5	162.	165.5
		920	12.1	99.6	5.4	278	10.5	149.	101.0
		940	12.1	99.3	5.9	278	10.5	144.	81.3
		1000	12.1	99.4	4.7	275	10.5	156.	73.6
		1020	12.2	99.8	4.7	275	10.5	155.	58.0
		1040	12.2	99.8	4.8	274	10.5	190.	128.1
		1100	12.2	99.5	4.4	271	10.6	275.	351.9
		1120	12.3	99.5	4.6	273	10.6	370.	522.6
		1140	12.3	99.1	4.7	274	10.7	432.	537.8
		1200	12.3	99.8	4.2	276	10.7	424.	411.6
		1220	12.3	99.9	3.5	268	10.7	419.	409.9
		1240	12.3	99.7	3.7	269	10.7	415.	310.1
		1300	12.3	99.8	3.7	271	10.7	497.	385.4
78	215	840	11.5	11.6	4.9	301	11.5	4.9	4.9
		900	11.6	11.6	4.9	299	11.5	4.9	4.9
		920	11.4	11.4	4.7	294	11.4	4.7	4.7
		940	11.4	11.4	4.7	295	11.4	4.7	4.7
		1000	11.4	11.4	4.7	296	11.4	4.7	4.7
		1020	11.1	11.1	4.7	297	11.1	4.7	4.7
		1040	11.1	11.1	4.7	298	11.1	4.7	4.7
		1100	11.3	11.3	4.7	299	11.3	4.7	4.7
		1120	12.0	12.0	4.7	300	12.0	4.7	4.7
		1140	11.5	11.5	4.7	301	11.5	4.7	4.7
		1200	11.5	11.5	4.7	302	11.5	4.7	4.7
		1220	11.3	11.3	4.7	303	11.3	4.7	4.7
		1240	12.3	12.3	4.7	304	12.3	4.7	4.7
		1300	12.3	12.3	4.7	305	12.3	4.7	4.7

Table A3 — Bin-Edge Locations  
for Probes in Table A1

Particle Radius ( $\mu\text{m}$ )	
ASASP Probe 1	CSASP Probe 2
0.1	0.75
0.135	1.7
0.17	2.65
0.205	3.6
0.24	4.55
0.275	5.5
0.31	6.45
0.35	7.4
0.4	8.35
0.45	9.3
0.5	10.25
0.55	11.2
0.6	12.15
0.65	13.1
0.7	14.05
0.75	15.0

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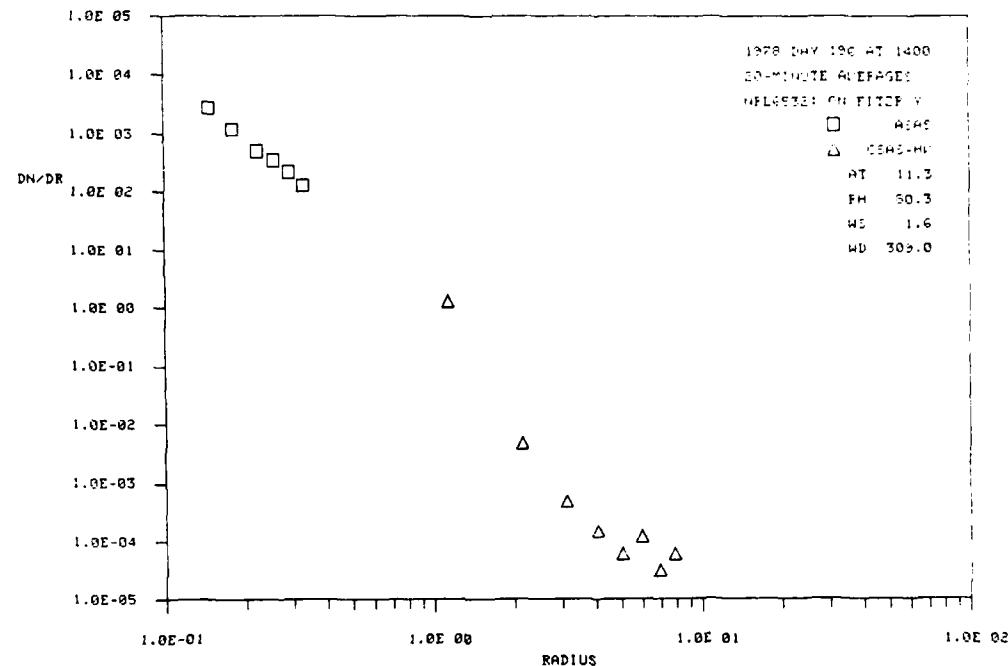


Fig. Ala

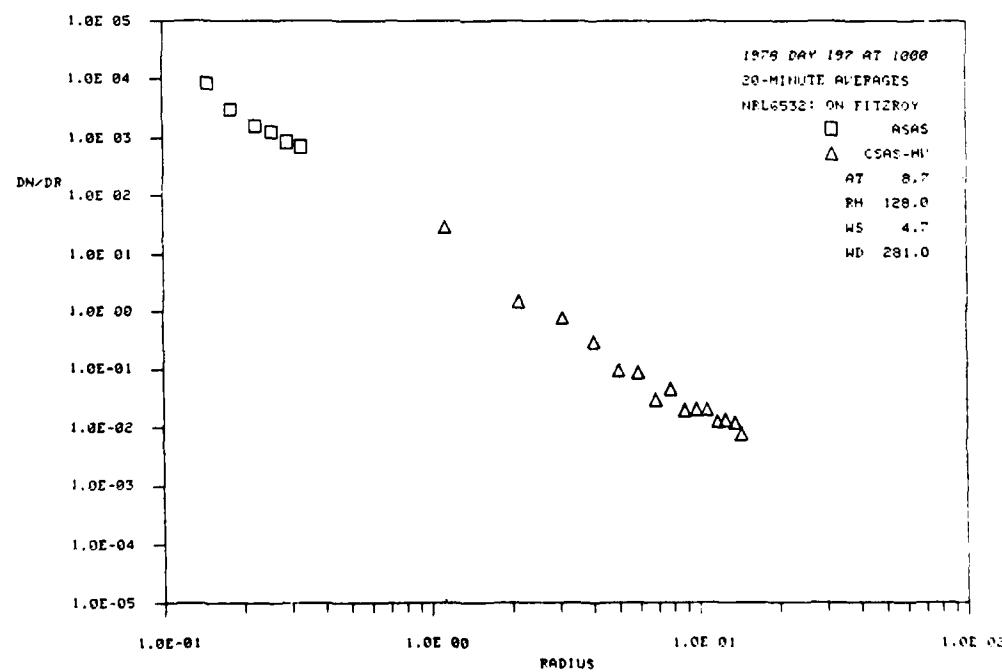


Fig. Alb

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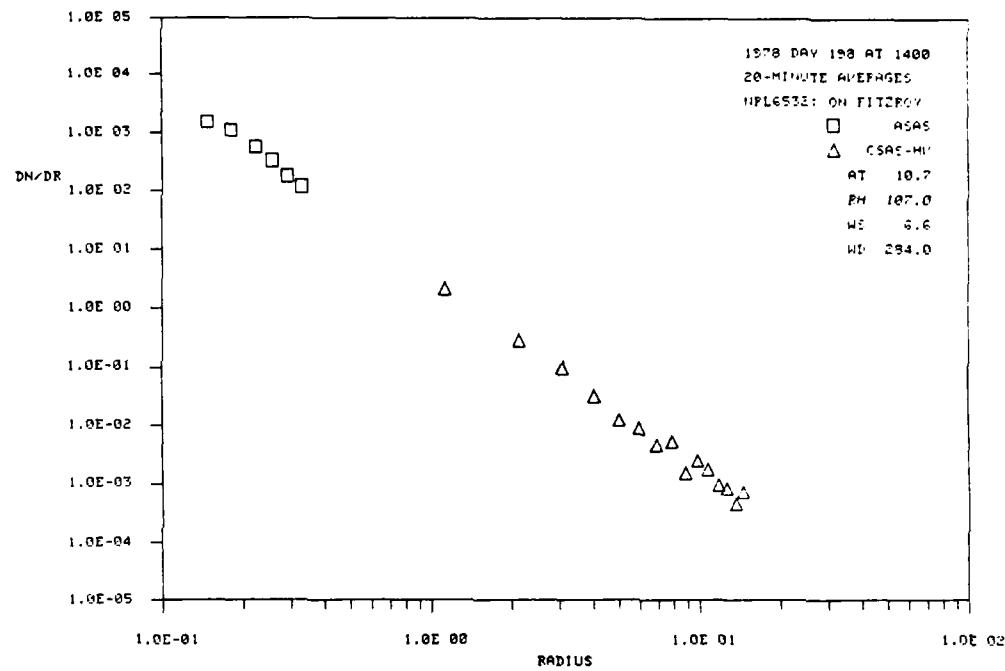


Fig. A1c

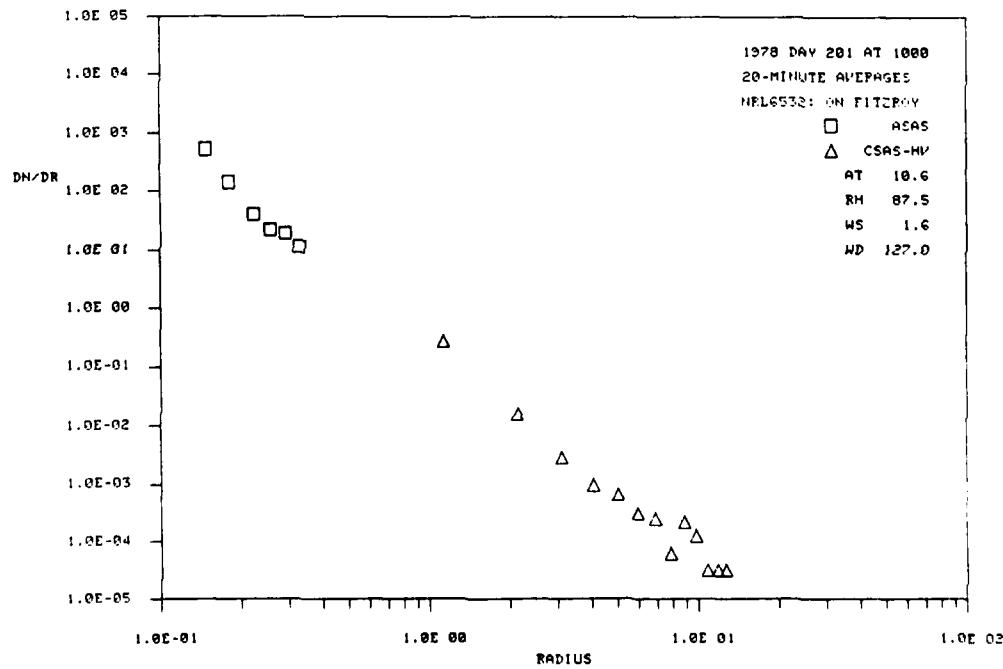


Fig. A1d

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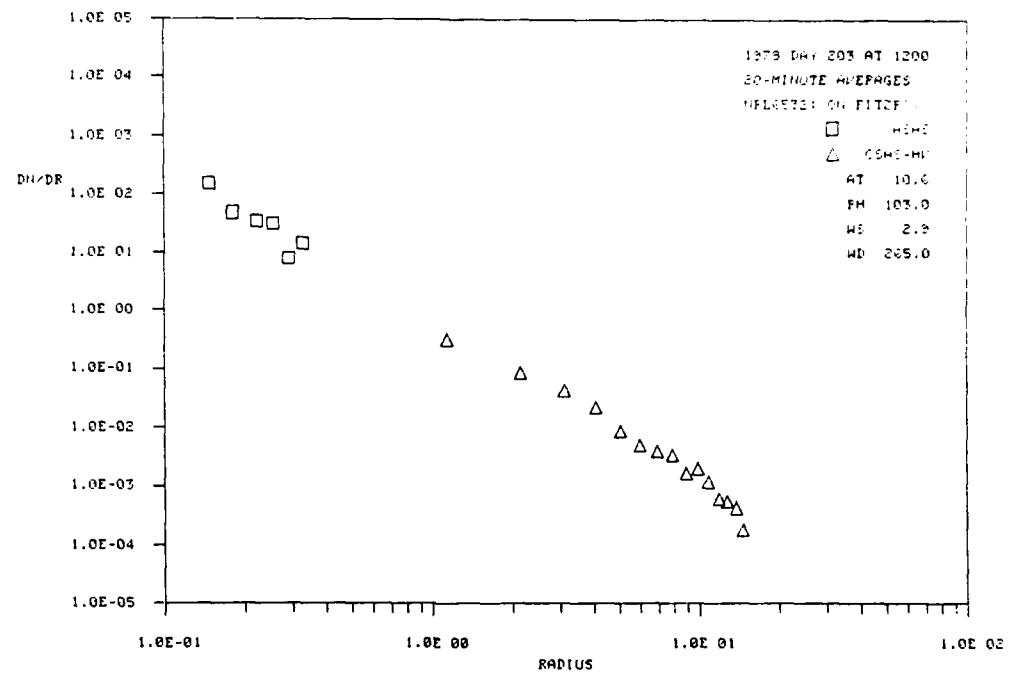


Fig. A1e

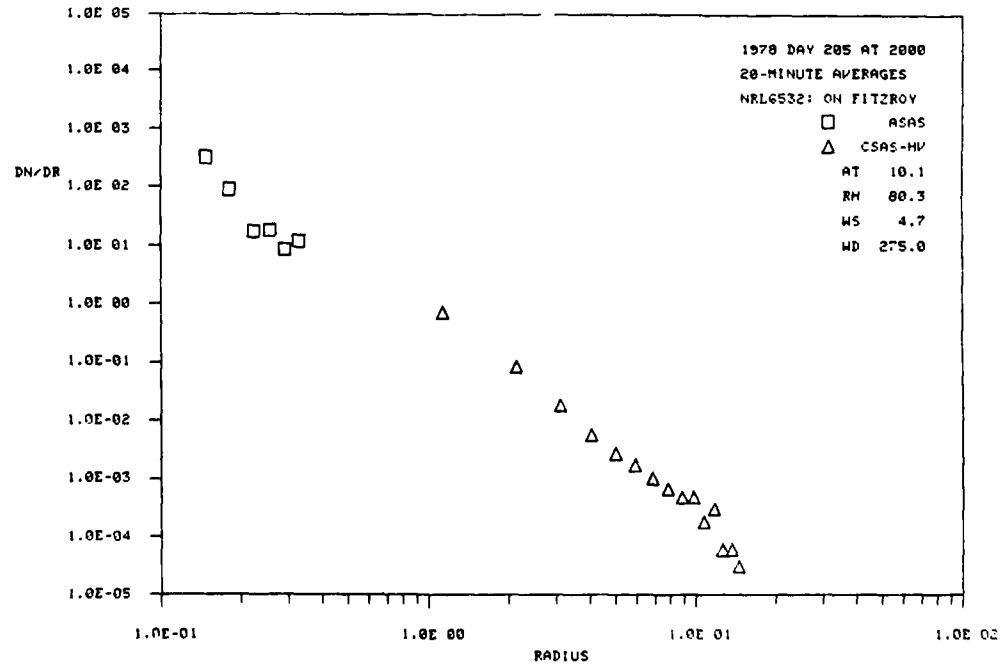


Fig. A1f

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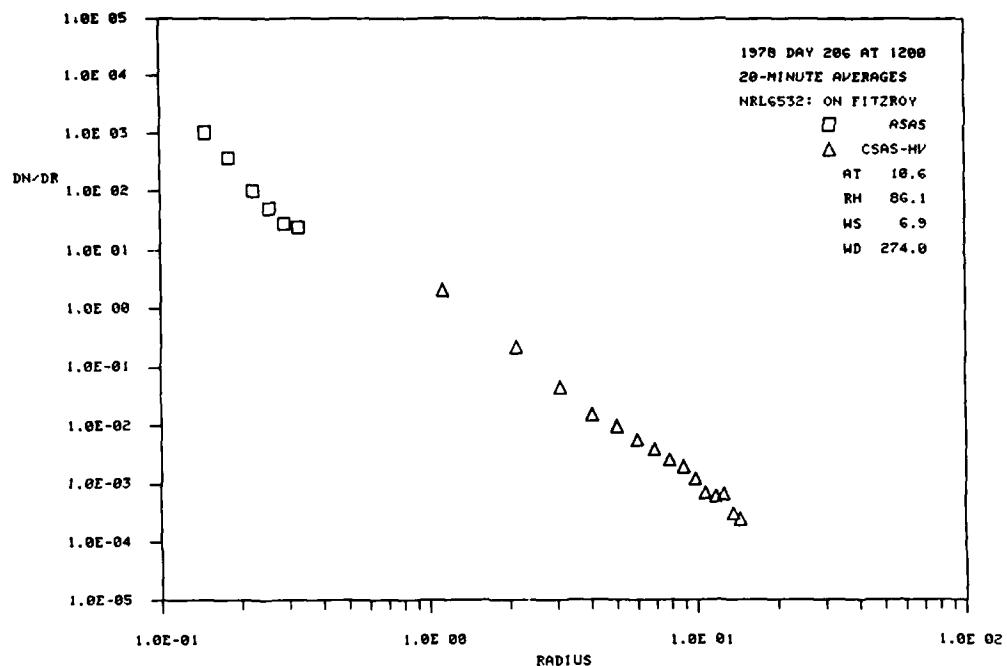


Fig. A1g

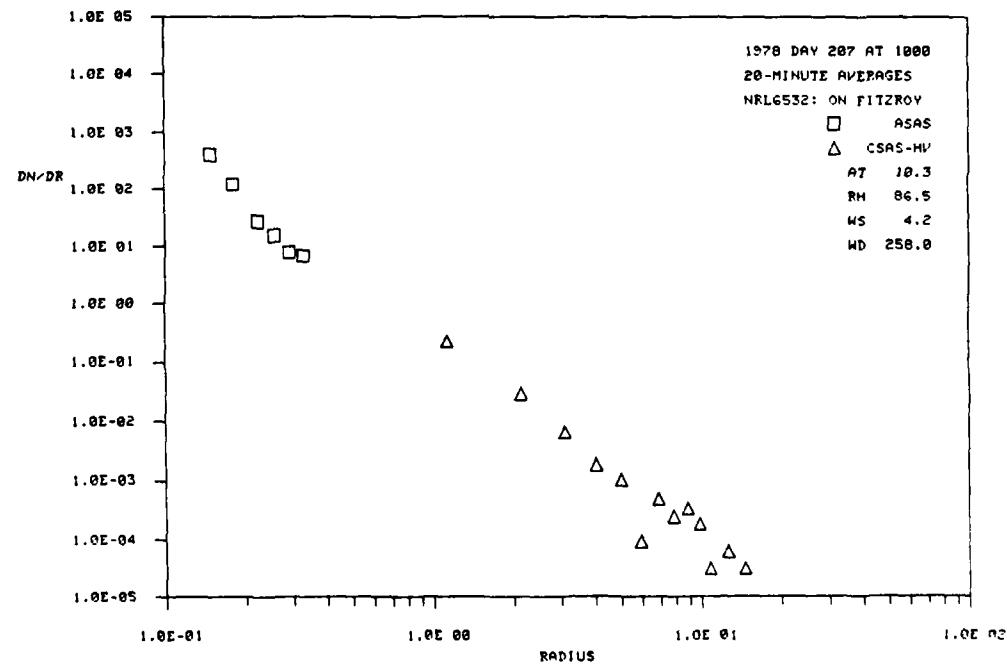


Fig. A1h

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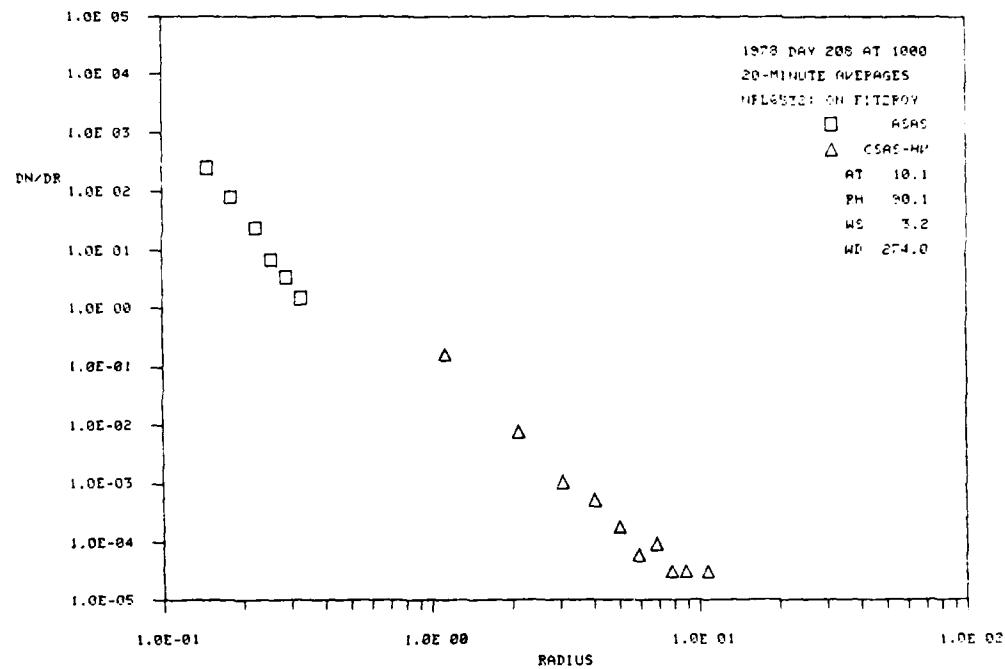


Fig. A1i

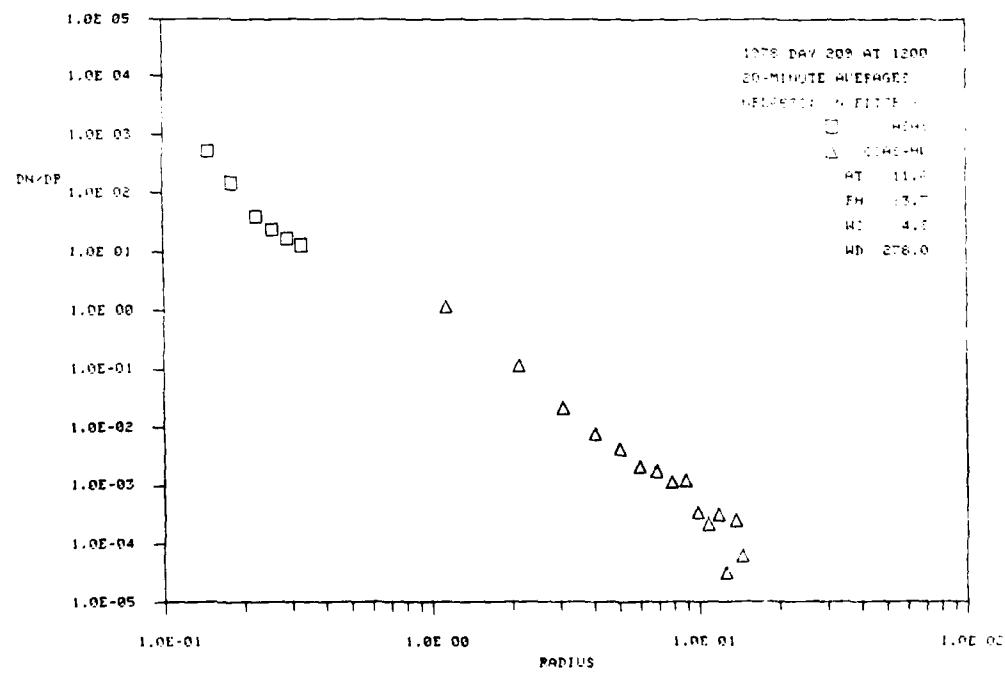


Fig. A1j

TRUSTY AND COSDEN

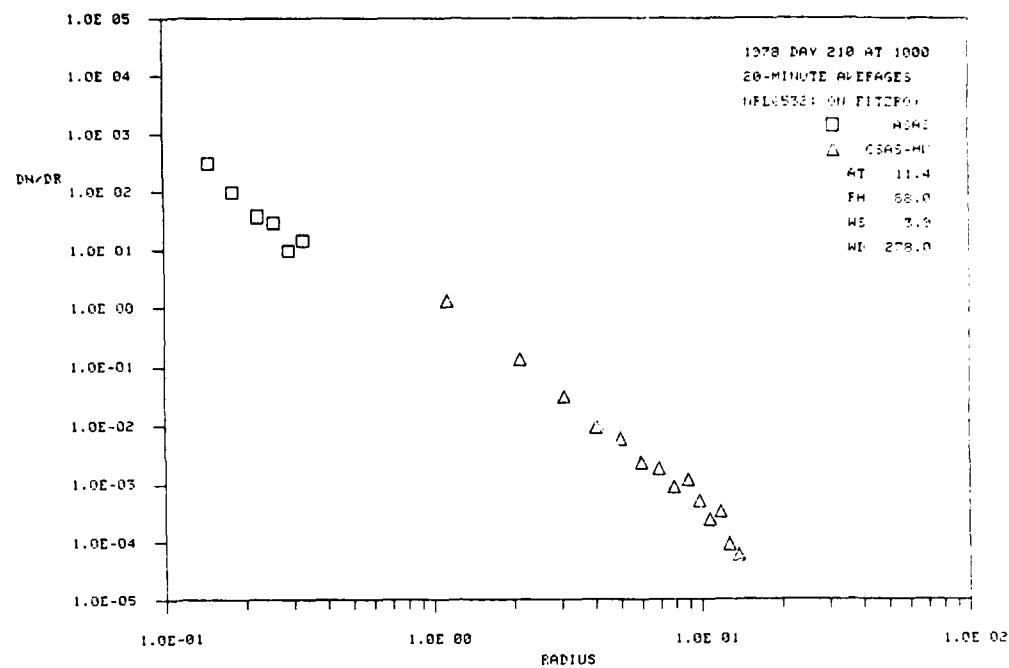


Fig. A1k

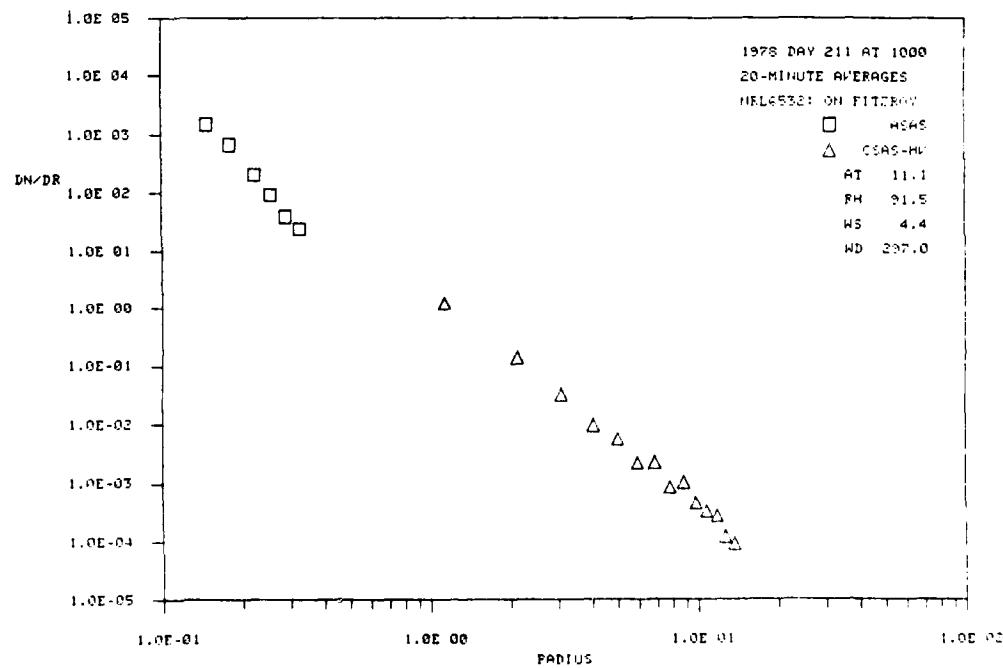


Fig. A1l

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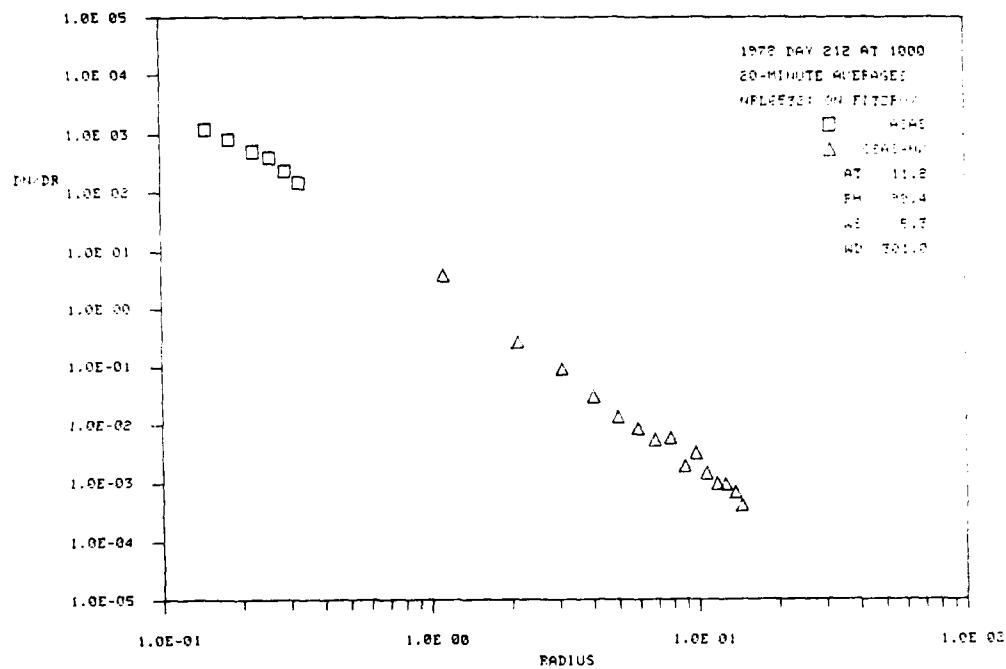


Fig. A1m

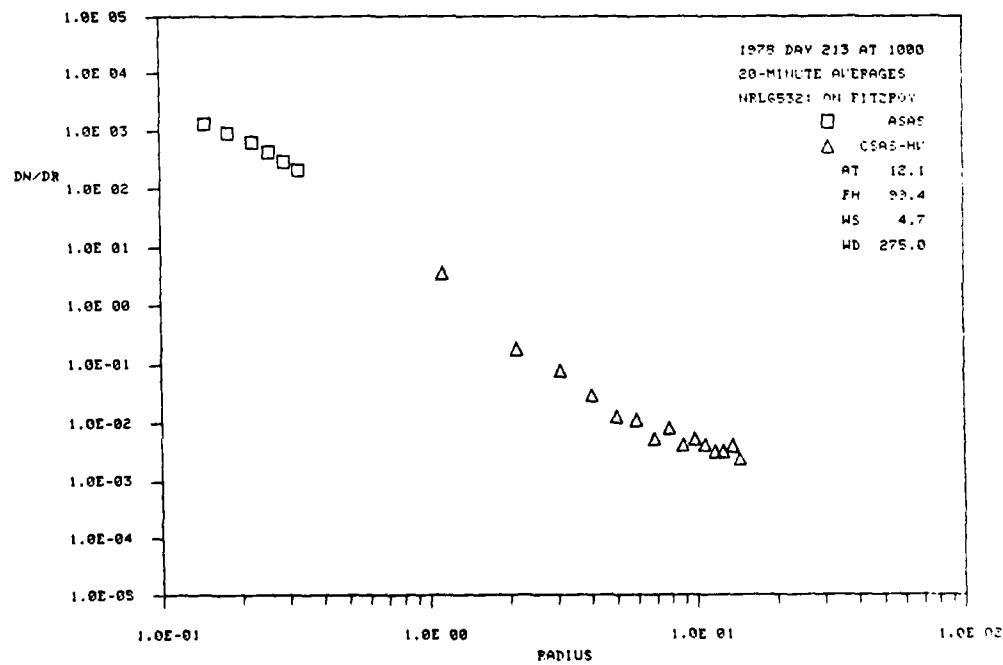


Fig. A1n

TRUSTY AND COSDEN

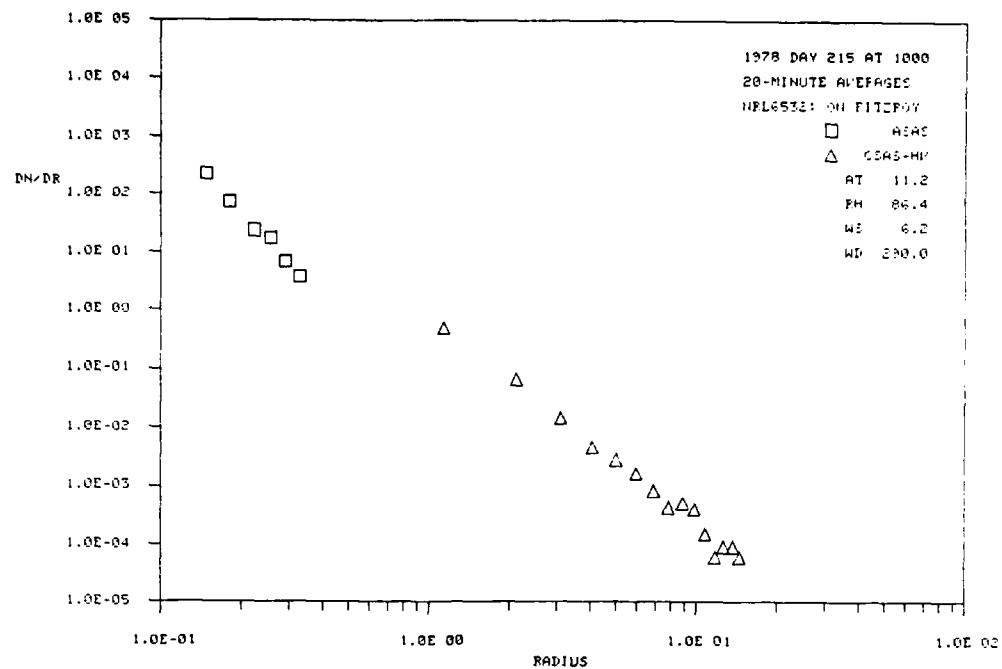


Fig. A1o

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